

**Post-traumatic stress during the Greek economic crisis: Is  
there evidence for mass traumatisation?**

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**Abstract**

The aim of the study was to investigate levels of post-traumatic stress due to the recent economic crisis in a Greek community sample and identify particularly vulnerable demographic groups. A sample of 1208 residents of a western Athens borough completed the Impact of Events Scale-Revised. According to the findings, almost 60% of respondents reported severe and 28% moderate post-traumatic stress. Individuals in employment presented similar levels as the unemployed, while caring for dependents, having lower educational attainment, and being female and older were associated with greater post-traumatic stress. The present findings suggest a high prevalence of post-traumatic stress in a community sample, indicating that policymakers in Greece, Europe, and worldwide need to take very seriously the growing evidence for the detrimental effects of austerity politics on both individual and collective well-being.

The detrimental effects of economic crises on psychological well-being have been well documented. During the Russian crisis of the early 1990s, alcoholism increased dramatically among working class men resulting in a steep rise in mortality rates (Borowy, 2011), while the number of mental health related deaths surged in South-East Asia during the economic crisis of the late 1990s (Khang, Lynch, & Kaplan, 2005). During the economic recession of the early 1990s in Western Europe, children's mental health deteriorated across the continent as severe economic stress often compromised parents' capacity to care for their offspring and frequently triggered family conflict (Solantaus, Leinonen, & Punamäki, 2004).

Recently, attention has been drawn to the effects of the crisis beginning in 2008. Research suggests that the incidence of major depressive disorder in the Canadian population has risen since 2008 (Wang, Smailes, Sareen, Fick, Schmitz, & Patten, 2010) as have rates of anxiety, depression, and suicide in Europe (Chang, Stuckler, Yip, & Gunnell, 2013; McDaid, Quaglio, de Campos, Dario, Van Woensel, Karapiperis, et al., 2013). These studies point out that countries with the highest levels of job loss and the lowest levels of pre-crisis unemployment have been the most vulnerable, although currently available data may underestimate the full impact.

Uutela (2010) argues that the effects of economic crises on well-being are context-dependent and low- and middle-income countries are at greater risk as they lack supportive resources. Economic crises tend to affect both the number and intensity of stressors as actual and feared unemployment rise, valuable income is lost, prices of basic goods are on the upsurge, and an overall climate of uncertainty envelops society. At the same time, as crises typically invite policies of austerity and budget cuts in basic health and social services, both formal and informal resources of community support diminish. The elevated risk for the well-being of individuals and communities when stressors escalate and/or social support diminishes is well-established in the research literature (Pacák & Palkovits, 2001; Rhodes & Lakey, 1999).

### **Economic Crises, Trauma, and Individual Mental Health**

While a variety of mental health indices, including depression, panic, generalised anxiety, substance abuse, and suicide, have been studied in relation to economic crises, a very important type of psychological distress, post-traumatic stress, remains relatively unexplored. According to the DSM V (American Psychiatric Association, 2013),

post-traumatic stress and the related post-traumatic stress disorder (PTSD) are defined by symptoms which fall under four categories: intrusion (e.g., intrusive thoughts relating to the event), avoidance (e.g., avoiding event reminders), negative alterations in mood and cognition (e.g., distorted beliefs about the world), and negative alterations in arousal and reactivity (e.g., hypervigilance, particularly in relation to cues signalling the reoccurrence of the event).

Such symptoms can be triggered by various frightening events (e.g. physical assault, rape, traffic accident, life-threatening illness) and can persist even years after the event itself. For post-traumatic stress to develop, the distressing event need not directly refer to the self: individuals can also be traumatised by witnessing or hearing about someone else's threatening experience (e.g. how one was savagely attacked or killed). Although many individuals encounter such events at some point in their lives, only one third develop post-traumatic stress - most are able to return to usual everyday functioning after a relatively short period of disruption. Research suggests that individuals who perceive their social relationships as unsupportive, have poor coping skills, have experienced previous trauma, and currently suffer from mental health problems are more likely to develop post-traumatic stress, particularly if they are exposed to a severe stressor (Galea, Nandi, & Vlahov, 2005). Demographic characteristics including female gender, low socio-economic status, unemployment, and young age are also associated with an increased risk. The link between post-traumatic stress and age is particularly complex. While most studies document that the prevalence of post-traumatic stress is higher among younger compared to older women and some report that the same is also true for men, others have found higher prevalence among older rather than younger men (Bromet, Sonnega, & Kessler, 1998; Creamer & Paslow, 2008).

Sufferers of post-traumatic stress tend to experience the distressing event as unexpected and catastrophic, presenting an imminent threat to life. Psychological trauma appears to be intrinsically linked with a violent rupture in the mental representation of the external world as a predictable and safe place and the representation of the self as a competent survivor. As a result of this radically different, intrusive, and overwhelming experience, the individual seems emotionally unable to leave the traumatic event behind.

Finally, substantial psychological suffering due to a traumatic event is not only experienced

by individuals meeting the full DSM criteria for PTSD, but also by those who report subclinical levels (Cukor, Wyka, Jayasinghe, & Difefe, 2010). Studies report that the prevalence of sub-threshold post-traumatic stress in traumatised samples can reach 44% (Blanchard, Hickling, Barton, Taylor, Loos, Jones-Alexander, 1996).

Two studies so far have empirically investigated post-traumatic stress as a consequence of economic disaster. Researching a small sample of US financial planners affected by the 2008 crisis, Klontz and Britt (2012) found that 39% of participants reported severe post-traumatic symptoms. Moreover, in an American sample of Bernard Madoff fraud victims Freshman (2012) found that 56% of participants suffered from severe post-traumatic stress, while many also reported high levels of depression and anxiety; most victims also noted that they had lost trust in financial institutions. Although these two studies are informative and provide evidence for the traumatizing potential of financial disasters among specific social groups, the prevalence of post-traumatic stress in a large and varied community sample experiencing an economic crisis is under-researched.

#### **Economic Crises, Mass and Social Traumas**

Investigating whether the elicitation of post-traumatic stress is among the negative consequences of economic crises is important for many reasons. First, if this is the case, a more comprehensive account of the detrimental effects of such crises on mental health may be developed and a clearer insight into the nature of those effects may be attained. Post-traumatic stress is typically linked with many mental health indices already studied in relation to economic crises (e.g. depression, substance abuse, aggression and interpersonal conflict), as traumatised individuals attempt to deal with intrusive mental states and psychophysiological hyper-arousal. Placing those difficulties in the context of traumatic experience may somewhat change the way we understand and respond to mental health problems emerging during economic crises.

Moreover, finding that economic crises generate psychological trauma in wider communities would enrich our understanding of the psycho-social processes set off by such crises. A major question relates to the extent of trauma. Would trauma be confined to particular vulnerable groups or would it extend to the wider community? As economic crises typically affect large parts of the population, they may potentially elicit traumatic responses at a mass scale. On the

other hand, research evidence suggests that psychological trauma has long-term effects, as a substantial proportion of sufferers meet diagnostic criteria many years after the event (Galea et al., 2005). Furthermore, many researchers have argued that trauma is transmitted intergenerationally, as traumatised parents unintentionally tend to traumatise their own children, overwhelming them with fear and disorganizing their attachment system (Yellin & White, 2012). High levels of traumatic stress in an economically distressed community, therefore, may affect not only the present but also the future.

In addition, due to the nature of the traumatizing agent, the effects of a relatively large scale traumatization caused by an economic crisis may transcend the level of the individual and implicate wider socio-cultural and political processes. If large segments of the population experience economic, social, and political institutions as excessively threatening, large segments of the population may also question public trust in such institutions and the policies they suggest to deal with a crisis. If a vital function of socio-political and economic institutions is to provide citizens with a sense of security (Mayseless & Popper, 2007; Sztompka, 2000), then the infliction of large scale trauma may turn institutions from protectors to assailants. Such a public perception may potentially disorganise collective bonds and endanger social cohesion.

A widespread perception of social institutions as unable to provide the population with a basic sense of security may be one of the conditions that allow mass trauma to eventually develop into what theorists have called a *social* or *cultural* trauma (Alexander, Eyerman, Giesen, Smelser, & Sztompka, 2004). These authors claim that certain historical events are not simply perceived to endanger the personal identity of particular individuals but also their social and cultural identities. The collective memory of such catastrophic events mentally imprison the victimised groups in the past, rendering them unable to fully comprehend and eventually leave that past behind. Typically, such a traumatic legacy continues to inflict future generations, although these may no longer suffer from post-traumatic stress as it is clinically defined.

#### **Trauma and the Economic Crisis in Greece**

For these reasons, it is important to identify the levels of post-traumatic stress experienced by a community undergoing an economic crisis. To address the gap in the

literature, the present study examined the possibility of large scale traumatization in Greece, the European country most hardly hit by the recent Eurozone crisis. Greece has recently experienced the total collapse of its economy and a most intense socio-economic turmoil as a stringent austerity programme was imposed in exchange of large bailout loans from foreign lenders. Since the crisis begun, the average household in the country has lost about 40% of its income due to salary and pension cuts, while unemployment has soared to 27% (56% among the young 18-25 years). Public spending for health and social care has been cut by approximately 50% exposing the great majority of those in need to dangerously sub-standard care. A recent outbreak of malaria that nearly re-established the disease in the country and a 200% increase in HIV infections due to cuts in free needle provision to people with substance abuse issues are perhaps the most characteristic examples of how the country's health care system has seriously failed its citizens.

The crisis has also seriously impacted mental health. Since the crisis began, one-month prevalence of major depressive disorder in the country increased by almost 5% (Economou, Madianos, Peppou, Patelakis, & Stefanis, 2013), the number of suicides by 17% (Stuckler, Basu, Suhrcke, Coutts, & McKee, 2011), and the number of attempted suicides by 36% (Economou, Madianos, Theleritis, Peppou, Stefanis, 2011), while depression severity and frequency of suicide attempts have been related to indices of economic hardship (Economou et al., 2013; Economou et al., 2011).

Studies also report that child and family mental health has been substantially affected. Since the beginning of the crisis cases of family discord have increased by 51%, conduct disorders in children and adolescents by 28%, adolescent substance abuse by 19%, and adolescent inpatient admissions by 84% (Anagnostopoulos & Soumaki, 2013). In 2013 serious diagnoses such as psychosis and personality disorder have risen to 78% of the total number of adolescent psychiatric admissions, however, in 2007 this figure was 48%. This deterioration in child and adolescent outcomes suggests that the family environment has become substantially more stressful and that distressed parents have become significantly less supportive, hinting that the current crisis is likely to have negative mental health effects on the next generation as well.

In addition to impacting the mental health of individuals, the economic crisis that began in 2010 in Greece has occurred in a turbulent socio-political context. The

overwhelming majority of the country's population seem to perceive major socio-political institutions as failing and to have lost trust in them (Public Opinion Analysis Sector of the European Commission, 2012). Xenophobia and violence have rapidly escalated and foreigners are often blamed for the crisis.

### **Current Study**

The devastating effects of the crisis on employment and people's financial situation, its unexpected and overwhelming nature, the deterioration of mental health, the rapid decline of public trust, and the shift towards more aggressive socio-political attitudes suggest the possibility of a traumatic response among the Greek population. This study assessed levels of post-traumatic stress in a community sample and identified especially vulnerable demographic groups. In particular, it was hypothesized that a sizeable percentage of respondents would report high levels of post-traumatic stress and that higher levels would be found among women compared to men and among younger persons compared to older. It was also hypothesized that post-traumatic stress would be higher among socio-economically disadvantaged groups compared to the more advantaged, in particular that it would be higher among the unemployed compared to the employed and among those with low educational attainment compared to the highly educated groups. Moreover, it was expected that higher levels of post-traumatic stress will also be reported by individuals encountering interpersonal strain, such as those without a stable attachment relationship (widowed, divorced, and single) compared to those with such a relationship and among those having to care for a dependent compared to those without dependents. It was also hypothesized that gender would moderate the link between age and post-traumatic stress, so that women would present greater distress when younger and men when older. Finally, the study explored the potential moderating effects of gender on the link between post-traumatic stress and the other demographic variables.

### **Method**

#### **Design**

The present findings are part of a larger correlational study on the effects of the recent economic crisis in Greece (Sochos, 2014). Six demographic variables were included as independent variables (gender, age, educational level, employment status, marital status, and

having dependents) and post-traumatic stress as the dependent variable.

### Participants

A convenience sample of 1,208 participants was recruited in a predominantly working and lower middle class borough of western Athens (Aspropyrgos, population: 30,000). Being a resident in the borough and a Greek national were the inclusion criteria. Forty-nine percent of participants were men and 51% were women, while mean age was 36 years ( $sd=12.2$ ). Sixty percent of respondents were in full-time and 9.6% in part-time employment, while 26.4% were unemployed and 3.7% were pensioners. With respect to relationship status, 43.8% of participants were married, 6.2% were divorced, 15.5% were in a long-term non-marital relationship, .5% were widows/ers, and 33.9% were single. Over 40% had dependents (mainly children or elderly). Forty-one percent were university graduates, 50.1% had completed secondary education, 5.6% had only completed lower secondary education, and 3.8% had only completed primary school. University and high school graduates were typically employed in middle-to lower managerial positions in the public or private sector or were self-employed, while junior high and primary school leavers were typically employed as clerks, manual workers, or run small businesses.

### Measures

Two questionnaires were used to collect present data. First, a questionnaire assessing six demographic variables was utilized. These variables included the following: gender, age, employment status (i.e., full-time, part-time, unemployed, pensioner), marital status (i.e., married, divorced, widowed, in long-term relationship, single), educational level (university graduate, senior secondary, junior secondary, primary), and presence of dependents in the home (i.e., yes, no). Age was treated as a continuous variable.

Secondly, participants completed the Impact of Events Scale-Revised [IES-R] (King, Orazem, Lauterbach, King, Hebenstret, & Shalev, 2009; Weiss & Marmar, 1997), a self-report questionnaire measuring symptoms of post-traumatic stress. IES-R consists of 22 questions scored on a 0-4 Likert scale and is one of the most extensively used and validated measures of post-traumatic stress. The scale measures psychological distress in relation to one specific traumatic event, as participants are asked to complete it only in relation to that event. Example items include, "I

thought about it when I didn't mean to", "my feelings about it were kind of numb", "I felt irritable and angry." IES-R correlates highly with PTSD Checklist (Creamer, Bell, & Failla, 2003).

In the present study participants were asked to consider the most distressing event they experienced in relation to the recent economic crisis and to report psychological symptoms associated with that event only. The majority of the sample identified drastic salary and pension cuts, closing down of business, and losing a salaried job as the main distressing events. In research in this area, total scores of 33 and 12 are regarded as thresholds of severe and moderate traumatic distress respectively (Creamer et al., 2003) and were also used as such in the present study. Although IES-R is not a diagnostic instrument for PTSD and caution needs to be exercised in the use of thresholds, these thresholds are indicative of increased likelihood for the presence of clinical levels of post-traumatic stress.

Some researchers have argued that a four- or even a five- factor structure underlies the scale, as this is more consistent with the DSM classification of PTSD symptoms under the categories of intrusion, avoidance, cognition and mood, and arousal-reactivity (King et al., 2009). However the creators of IES-R suggest that it consists of three subscales - Intrusion, Avoidance, and Hyperarousal (Weiss & Marmar, 1997). The IES-R has only been used once with a Greek sample, a sample of cancer patients (Mystakidou, Tsilika, Parpa, Galanos, & Vlahos, 2007). Mystakidou and her/his colleagues reported satisfactory internal consistency and test-retest reliability also providing evidence for the scale's construct validity against measures of anxiety and depression. In the current study overall Cronbach's alpha was .91, while subscale alphas were .92 for Intrusion, .86 for Avoidance, and .89 for Hyperarousal.

### Procedure

Participants were contacted in central public places (e.g., the market, coffee shops) by a trained research assistant between March and July 2013. Participants were told that the aim of the study was to investigate the effects of the economic crisis on people's attitudes and emotional states and they needed about 20 minutes on average to complete the questionnaires. The study was funded and received ethical approval from the Centre for Research in Applied Psychology, University of Bedfordshire, UK.

## Results

To address the first hypothesis and assess the level of traumatization in the entire sample, two threshold points were used (score 33 indicating severe and score 12 indicating moderate symptoms of post-traumatic stress). It was found that 59.6% of participants (95% CI, 56.6-62.6) received an overall score of 33 or above and 28.5% (95% CI, 25.5-31.5) received a score between 12 and 32. The mean of the overall sample was 38.56 ( $sd=21.03$ ), well above the severe post-traumatic stress threshold.

### TABLE 1 HERE

To test whether membership in particular demographic groups predicted differences in traumatization, hierarchical regression was used. Post-traumatic stress was used as the dependent variable while the six demographic variables were entered as predictors. Categorical predictors were coded and entered as dummy variables. Gender and age were entered first, as demographic variables consistently associated with post-traumatic stress in previous studies, while having dependents and marital status were entered subsequently as indicators of interpersonal stress and support. Educational level and employment status were entered last as indices of socio-economic disadvantage, since a main concern of the study was to identify vulnerability due to socio-economic position above that of known demographic predictors and personal circumstances.

The scatter plot suggested a linear relationship between post-traumatic stress and age, while linearity was assumed by definition in relation to the dummy predictors. Scatterplot inspection also indicated rather equal variability of the standardised residuals across the range of the standardised predicted values (homoscedasticity), while the Durbin-Watson figure (1.82) suggested the absence of autocorrelation in the residuals. No evidence of multicollinearity was found, as most Tolerance values were over .7 (the lowest was .36) and the highest VIF value was 2.7. Finally, histograms and q-q plots suggested an about normal distribution in both standardised and unstandardized residuals, but the Shapiro-Wilk test was non-significant ( $p=.001$ ). Many experts agree that violating residual normality has no significant impact on coefficient trustworthiness, particularly in large samples and if the other assumptions have been met (Williams, Grajales, & Kurkiewicz, 2013).

Each dummy variable was entered in each step and consisted of as many dichotomous variables as the number of categories in each predictor, except one. The coefficient  $p$  values indicated whether the effect of the corresponding dichotomous variable on the dependent variable was statistically different from the effect of the unentered (reference) variable. To compare effects across all dummy variables, additional regressions were run with every dummy variable being treated as reference variable.

Gender, age, caring for a dependent, marital status, and educational level were significantly associated with post-traumatic stress (see Table 2). In particular, the following groups reported higher levels of post-traumatic stress: women compared to men, older respondents compared to younger ( $r=.24$ ,  $p<.001$ ), and individuals with dependents compared to those without dependents. Moreover, university and high school graduates experienced lower post-traumatic stress than those with lower educational attainment, while the former reported the lowest distress. Interestingly, no effect of employment was found. The present sample yielded power of 93% to detect  $R^2$  change values of .01 for gender, 100% to detect change values of .06 for age, and 99% to detect change values .02 for dependents and education. Also, analyses yielded power of 82% to detect a non-significant change of .007 for marital status and 58% to detect a non-significant change of .004 for employment.

### TABLE 2 HERE

To test if gender had a moderating effect on the link between age and post-traumatic stress, moderated regression was conducted by adding the interaction term (Age\*Gender) into the initial equation after post-traumatic stress and age were centred. A significant interaction effect was found ( $F_{14, 1161} = 12.43$ ,  $p<.001$ ; interaction  $B = -.22$ ,  $t=-2.29$ ,  $p=.018$ ). This finding suggested that although post-traumatic stress was positively correlated with age in both gender groups, the relationship between the two variables was stronger among women. In particular, the MODPROBE procedure (Hayes & Matthes, 2009) suggested that one additional year of age increased post-traumatic stress by .55 scores in women ( $t=6.11$ ,  $p<.001$ ) and .32 scores in men ( $t=3.72$ ,  $p<.001$ ). Finally, no significant interaction effects between gender and the other demographic variables were found.

### Discussion

Almost 60% of a large community sample recruited in Athens, Greece, reported severe symptoms of post-traumatic stress due to events relating to the country's recent economic crisis. The findings indicated that certain demographic groups were particularly affected - those with dependents, women, older individuals, and those with lower educational attainment. Individuals in employment and pensioners experienced as much post-traumatic stress as the unemployed, while the difference between men and women tended to increase with age.

#### Greek Crisis and the Traumatization of Individuals

Although IES-R is not a diagnostic instrument and meeting the severe threshold is not indicative of the definite presence of PTSD, over-threshold scores suggest an increased likelihood of suffering from clinical levels of post-traumatic stress. According to previous studies the overall diagnostic power of the scale is around 80% (Creamer et al., 2003) and even if half of the severe scores obtained are actually indicative of clinical or sub-clinical levels of post-traumatic stress, the number would still be very large. The levels of post-traumatic stress observed in the present sample appear to be closer to those reported by populations experiencing a human-made disaster than those obtained in non-traumatized communities. While in non-traumatized European samples twelve-month prevalence is estimated to be around 1% and lifetime prevalence around 2% (Darves-Bornoz, Alonso, de Girolamo, de Graaf, Haro, Kovess-Masfety, 2008), PTSD prevalence in traumatized samples is reported to be between 25% and 75% (Galea et al., 2005). Moreover, using a scale very similar to the IES-R, the PTSD Checklist, Freshman (2012) found that the prevalence of *presumed* PTSD among victims of the Madoff Ponzi Scheme was 56%, a figure very close to the findings of the current study.

The finding that individuals in employment presented similar levels of post-traumatic stress as unemployed respondents is particularly important. Considering the extent of recent cuts in salaries, pensions, and funding for basic health and social care as well as the repeated waves of redundancies that have rendered almost any form of employment temporary, this finding is hardly surprising. However, although the sample had enough statistical power for a reasonably accurate estimation to be made, it was not representative of the whole population and

therefore conclusions should be reached with caution. On the other hand, basic demographic characteristics suggest that neither was it drawn from a predominantly socio-economically marginalized population. Almost three quarters of respondents were either employed or receiving a pension, over forty percent were university graduates while over ninety percent had completed at least secondary education.

Present findings identified particular demographic groups that may be at increased risk of post-traumatic stress. Individuals with dependents appeared particularly vulnerable, probably because the additional responsibility of having to take care of a loved one increased their emotional as well as economic burden. Dependents in the current sample appeared to be primarily children, indicating that parents were at heightened risk of developing a post-traumatic reaction to the economic crisis. This finding is consistent with the recent sharp increase in attending child and family mental health units across the country (Anagnostopoulos & Soumaki, 2013). The experience of post-traumatic stress substantially compromises the capability of parental couples to care both for their children and for each other. Previous research suggests that such parents often exhibit a range of distressing and frightening behaviors, which threaten the development of a secure bond with their children and predispose them toward a range of behavioral problems (Lambert, Holzer, & Hasbun, 2014; Yellin & White, 2012).

Higher prevalence of post-traumatic stress among women than men has also been documented in previous research (Bromet et al., 1998; Kimerling, Weitlauf, Iverson, Karpenko, & Jain, 2014) and the current study confirms this is also true when individuals are traumatized due to an economic crisis. Women are more likely than men to have experienced previous trauma, childhood adversity, or poor mental health, all known risk factors for developing post-traumatic stress (Kimerling et al., 2014). In the present sample, the gender gap increased with age, although older individuals experienced greater post-traumatic stress than the younger when gender was not taken into account. This finding contradicted the current hypothesis and most but not all previous research, as some studies have indeed reported relatively high prevalence among elderly samples (Creamer & Paslow, 2008). Present findings seem to suggest that economic crises and severe austerity have greater traumatic impact on the relatively older population. Suffering a substantial loss of economic resources may be more overwhelming at an older age when

individuals expect to be more financially secure after years of employment and when their capability to regain the lost resources appears substantially reduced. This may be more so in the context of a dramatically weakened system of health and social care in which the quality of free public services has plunged and the use of private expensive provision appears as the only option.

Finally, as individuals with the lowest educational attainment tend also to belong to the lowest socio-economic strata, the observed association between post-traumatic stress and lower education emphasized more clearly the class dimension of the economic crisis and its effects on mental health. This finding is consistent with previous studies reporting that low education predicts the development of PTSD after distressing events (Brewin, Andrews, & Valentine, 2000) and that low-income individuals with low educational attainment often have limited cognitive resources to facilitate the processing of such events (Engelhard, Van den Hout, & Schouten, 2006). In the context of a financial crisis, individuals with limited education may lack the knowledge and understanding of the nature, causes, and possible solutions to the crisis and may find technical economic reports in the media confusing. Such experiences of powerlessness and marginalization are likely to make crisis-related events more incomprehensible, unpredictable, and overwhelming.

However, it should be noted that although having no dependents, being male, and having higher educational attainment were associated with lower post-traumatic stress, respondents in these demographic groups also presented average scores above the highest severity threshold, providing further evidence of substantial distress across the sample. Such pervasiveness of distress together with the surprising finding that marital status had no protective effect, suggest perhaps that those emotionally close to the most vulnerable may have had their support-providing capability compromised as they were under considerable strain as well. The significance of couple relationships in supporting individuals cope with traumatic events has been highlighted in the literature (Johnson, 2002) and the fact that the presence of such relationships did not have an effect on the experience of post-traumatic stress in this sample is noteworthy. Considering also the large cuts in health and social care that have swept Greece (Karanikolos, Mladovsky, Cylus, Thomson, Basu, Stuckler et al., 2013) and the importance of such provision in preventing and treating psychological difficulties (Ozer, Best, Lipsey, &

Weiss, 2003), the mental health prospects of the most vulnerable in the country are a serious cause for concern. Future research needs to investigate the level and types of social support available in communities during economic crises and explore the ways in which lack of support resources may amplify psychological distress.

### **Greek Crisis and the Traumatization of Social Identities**

Although the present sample was not representative of either the entire Greek population or the particular borough, findings suggest that some of the country's citizens, including those traditionally assumed to meet a basic level of socio-economic security, may currently be traumatised. Large-scale economic traumatization may have implications that go beyond individual mental health, as it weakens the trust citizens put on the economic and social institutions meant to make them feel safe. Such loss of trust in the presence of large scale psychological trauma may create conditions that give rise to social traumatization, in which collective as opposed to only personal identities are overpoweringly threatened.

Sztomka (2004) argues that rapid socio-economic change, even a positive one, can overwhelm a society, destabilise institutions, undermine social identities and cohesion, and eventually become a collective trauma. Of course the rapid transformations imposed on the Greek society by the crisis and the austerity policies adopted to tackle it have been far from positive: 30% of the population currently live either on or below the poverty line, basic socio-economic provisions have been pulled apart, and such violent changes are perceived to be imposed largely by foreigners. Although the concept of social trauma cannot be simply reduced to a large number of PTSD sufferers, the traumatization of individuals and personal identities on a large scale may eventually lead to that shattering impact on society's foundations that is required for social trauma to emerge.

Researchers have argued that during economic downturns individuals' commitment to their political identities becomes stronger (Fadjukoff, Kokko, & Pulkkinen, 2010) and they often reinforce feelings of vulnerability, mistrust, and malignant antipathy between social groups (Abrams & Vasiljevic, 2014). In fact, research has shown that economic threats can lead to authoritarianism (Rickert, 1998; Sales, 1973) and so does post-traumatic stress (Bonanno & Jost, 2006). These arguments are consistent with both

the context and findings of the present study. Reese and Lauenstein (2014) conclude that the unequal distribution of resources within the European Union has fuelled nationalism and intolerance, claim best supported by the recent sharp rise of Golden Dawn, the Greek Neo-Nazi party. A fringe political organization of the extreme right with no more than a few thousand supporters before the crisis, Golden Dawn obtained almost 7% of the vote in the last two national elections and is now the third biggest party in the Greek parliament. Interestingly, Golden Dawn obtained its second highest percentage during those elections (14.5%) and its highest percentage in the last local elections (17%) in the borough from which the present sample was recruited (Mesogianews, 2015).

Furthermore, the analysis of additional data collected from the current sample and presented elsewhere indicated a positive correlation between post-traumatic stress and right-wing authoritarianism (Sochos, 2014). It seems that this significantly traumatised sample was derived from a local population exhibiting notable extreme right political behaviour and reported that its authoritarian attitudes were linked to post-traumatic stress. When personal and collective identities are overwhelmingly threatened in the absence of supportive institutions, reflective capacity is compromised and the search for the causes of misfortune may be misguided. History is full of relevant examples: it happened in devastated Germany in the 1930s and in the Zionist response to the Palestinian problem. Mass and social traumatisation were at the heart of both responses. Are similar social processes taking place currently in Greece and other parts of Europe, as neoliberal policies threaten people's livelihoods and social identities?

### Policy Implications

The current findings add to the growing evidence that the austerity policies implemented by neoliberal policymakers in the past few decades worldwide may have detrimental effects on mental and physical health. In addition to discarding austerity as a viable route toward economic recovery, policymakers need to maintain effective mental health services, enhance expertise in the treatment of post-traumatic stress and other psychological difficulties, and strengthen further the provision of formal and informal social support during economic crises.

Besides the obvious moral and humanitarian implications, the traumatization of personal and social identities puts at risk the very

economic recovery that austerity policies aim to achieve. A number of researchers have argued that identity and social cohesion are bi-directionally linked with the efficiency of an economy such that traumatic events may affect identity and this, in turn, may negatively impact economic behavior (Thórisdóttir & Karólínudóttir, 2014; Virgo, 2001). As the Greek economy lost a quarter of its GDP in just a few years and the country was threatened with exit from the Eurozone, terrified Greeks have withdrawn 124 billion euros from their bank accounts since the crisis began (Graeme & Allen, 2015). Although this may have made some sense for individuals who moved their money to safer foreign banks, it has been risky for individuals who have hidden large amounts of cash in their houses in burglary-ridden neighbourhoods. Most importantly, such fear-driven responses have been disastrous for the economy of the country as a whole as the liquidity of the banks suffered an additional hit and the overall crisis deepened further. This collective response is consistent with previous research suggesting that the financial situation of post-traumatic stress sufferers deteriorates after the traumatic event as they are unable to make rational economic decisions (Mateo, 2012).

Policymakers across the globe need to recognize that behind improved balance sheets lie human beings whose individual and collective well-being is compromised by mass unemployment, substantial loss of income, and lack of trust in socio-economic institutions. Perhaps it is time that the grossly inaccurate model of *homo economicus* is abandoned when economists and policy makers attempt to make sense of economic activity. Since there is clear evidence that human beings are not strictly rational, uncompromisingly self-interested, and rigidly profit-seeking, as the model suggests (Cohen, 2014), policy makers should commit to socio-economic systems based on cooperation, mutuality, and the development of healthy and constructive identities. Such a paradigm shift in understanding the nature of human economies and societies seems to be particularly urgent in Europe as the project of European integration is already in serious danger. Originating in the aftermath of World War II as a determined attempt to avoid a similar catastrophe in the future, the current European super-state seems to be haunted by the dynamics of trauma that both led to and resulted from the war. Although now, rather than bombs attacking European citizens, it is financial institutions. If Europe really wishes to leave its violent past behind, it needs to break the

cycle of trauma that still entraps its economic and socio-political mind.

### Future Research

As the current findings were obtained from a convenience sample, they need to be confirmed in representative samples in Greece as well other countries experiencing austerity. Moreover, although the time and cost required for the administration of psychiatric interviews to assess post-traumatic stress prohibits their use with large community samples, future studies could employ briefer interview versions in smaller, carefully selected samples with the goal of confirming the extent of post-traumatic stress due to the Greek economic crisis. Further research on the validity of IES-R in Greek samples should also be conducted. Research also needs to investigate the traumatizing effects of economic crises and policies of austerity in countries of the European periphery other than Greece which have also recently suffered such crises. Finally, more

empirical research is required to understand the links between the traumatization of individuals and the collective experience of social trauma not only in relation to economic crises but also more generally.

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**TABLES**

DEMOGRAPHIC VARIABLES		POST-TRAUMATIC STRESS <i>Mean (sd)</i>
<b>Gender</b>		
	Male	36.14 (21.24)
	Female	40.93 (20.27)
<b>Dependents</b>		
	With dependents	43.89 (22.05)
	Without dependents	34.99 (19.24)
<b>Employment</b>		
	Employed (F-T)	37.80 (20.85)
	Employed (P-T)	36.91 (19.17)
	Unemployed	39.77 (21.91)
	Pensioner	48.26 (19.73)
<b>Education</b>		
	Tertiary	35.42 (19.14)
	Higher secondary	39.05 (21.15)
	Lower secondary	48.27 (22.05)
	Primary	53.19 (23.38)
<b>Marital Status</b>		
	Married	41.83 (21.87)
	Divorced	45.45 (21.69)
	Widowed	55.83 (23.55)
	In relationship	36.59 (18.86)
	Single	34.02 (19.50)

Table 1: Levels of post-traumatic stress according to demographic group.

Predictors	Beta	B (SE)	Adj R <sup>2</sup>	ΔF	df
<b>Step 1</b>			.01	15.26 ( <i>p</i> <.001)	1,1173
<b>Gender</b>	-.13	-5.59 (1.18) <i>p</i> <.001			
<b>Step 2</b>			.07	77.46 ( <i>p</i> <.001)	1, 1172
<b>Age</b>	.25	.43 (.07) <i>p</i> <.001			
<b>Step 3</b>			.08	15.13 ( <i>p</i> <.001)	1, 1171
<b>Dependents</b>	.16	6.64 (1.64) <i>p</i> <.001			
<b>Step 4</b>			.09	2.23 ( <i>p</i> =.063)	4, 1167
(Dummy variables for Marital Status Reference variable: Married)					
<b>Widowed</b>	.02	6.49 (8.17) <i>p</i> =.427			
<b>Divorced</b>	.04	3.75 (2.48) <i>p</i> =.131			
<b>In non-marital relationship</b>	.11	6.18 (2.28) <i>p</i> =.007			
<b>Single</b>	.08	3.36 (1.98) <i>p</i> =.091			

<b>Step 5</b>			.12	13.13 ( $p<.001$ )	3, 1164
(Dummy variables for Education Reference variable: University)					
<b>Elementary</b>	.10	11.57 (3.30) $p<.001$			
<b>Junior High</b>	.12	10.80 (2.68) $p<.001$	4.82		
<b>Senior High</b>	.12	(1.28) $p<.001$			
<b>Step 6</b>			.12	1.77 ( $p=.150$ )	3, 1161
(Dummy variables for Employment Reference variable: Unemployed)					
<b>Employed (full-time)</b>	-.07	-3.12 (1.47) $p=.034$			
<b>Employed (part-time)</b>	-.05	-3.47 (2.15) $p=.108$			
<b>Pensioner</b>	-.04	-4.28 (3.76) $p=.256$			

Table 2: Demographic predictors of post-traumatic stress.

Note: In each step the  $p$  value of the coefficient refers to the comparison of the corresponding demographic group with the reference group.