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Resiliency and Adjustment in Times of Crisis, the Case of the Greek Economic Crisis from a Psycho-social and Community Perspective

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Abstract The 2009 economic crisis in Greece had harsh implications on the Greek society. The crisis led to high and increasing unemployment rates, which previously found to relate to increases in suicide rates, health risking behaviors and increased risk of mental health problems. The public's perceptions regarding the consequences of the crisis are crucial to their recovery. In order to get a comprehensive and thorough view of the public's perceptions, which will allow to draw conclusions and recommendations for a possible effective intervention program, the current study assessed the perceptions of a representative sample of the Greek adult population (N = 3002) in three sampling waves: December 2011, March 2011 and November 2012. These assessments included questionnaires designed to evaluate perceptions of current quality of life, economic decline, coping with economic and occupational commitments, physical and psychological health, wellbeing, health related behaviors, attitudes towards emigration, sources of support and political and social trust. Findings showed significantly higher perceptions of financial uncertainty and difficulties coping with economic commitments. Participants generally rated their psychological health lower than their physical health. Trust ratings were also found to be generally low, especially for younger populations. Younger populations also showed a more willing attitude towards emigrating out of Greece, compared to older populations. Coping measurements revealed a strong possible tendency to go back to the traditional ties of confidence and trust in family and friends as sources of support. In light

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of the results, we recommend to build programs that see the family and the local community as a resources of resilience and coping.

Keywords Greece · Crisis · Coping · Trust · Community · Psychological health

1 Introduction

According to recent studies, there are ramifications to the 2009 economic crisis in Greece which may include increased crime rates, lower health status, and higher suicide risk (Bonovas and Nikolopoulos 2012; Kaitelidou et al. 2014; Papaslanis et al. 2016; Tsouvelas et al. 2015). While most studies focus on the negative aspects of the crisis' implications, the current study emphasizes potential for recovery and the development of resilience. Leontopoulou (2013) suggests two criteria in the process approach to resilience: the cardinal one is the existence of adversity and/or risk and the second is adaptation under adversity. In the current study we assessed the adaptive prowess of the Greek population, and their ways of coping over time with the adversities of the economic crisis. We reviewed existing literature, and firstly describe the magnitude of the economic crisis in Greece according to up to date literature. Secondly, we present the crisis' impact on several important topics of individual and community resilience. Thirdly, we elaborate on the goals of the current study.

In this study we present new conclusions based on subjective measures of a large sample of population over time, including various indicative measures of individual and community resilience including: quality of life, well-being, physical and mental health, and attitudes regarding coping and trust.

1.1 Literature Review

Over the past few years the world has seen the transformation of the global financial crisis into a sovereign debt crisis in the Eurozone. It began in Greece in the autumn of 2009 and had similar effects in Ireland and Spain, and to an extent in Italy. In Greece the crisis has been the result of the steady deterioration of Greek macroeconomic indices between 2001 and 2009, to levels inconsistent with long-term European Monetary Union (EMU) participation, as well as a shift in markets' expectations regarding the healthy state of the Greek economy (Arghyrou and Tsoukalas 2011). When the global financial crisis occurred in 2008, the Greek government couldn't repay the enormous debts it owed since before its entry into the EMU (Frangos et al. 2012) and was the first Eurozone country to suffer from the implications of the financial crisis.

The unemployment rate in Greece increased rapidly; for example, within 6 months—from December 2010 to May 2011—it surged from 14.8 to 16.6%. The most recent report from November 2015 estimates the unemployment rate to be at 24.6% (Hellenic Statistical Autrhority 2016; Keese and Pascal 2014). In 2009 only 27.6% of Greeks were considered as being at risk of poverty, i.e., the share of persons living in households where the total equivalised disposable income is lower than 60% of the national median, whereas in 2014 the number had increased to 36% (Eurostat 2015; Hellenic Statistical authority 2015). Total household income dropped by a third between 2007 and 2012, the biggest fall in the Organization for Economic Cooperation and Development (OECD). Furthermore, since

2012, up to 1 in 5 Greek adults of working age now live in a household where nobody works (OECD 2014).

Since this survey's completion, Greece's economic state continued to deteriorate (Alderman et al. 2015). Although Greece received billions in financial bailouts from its creditors, it is still struggling with a severe debt, and in turn harsh austerity terms.

1.2 Health Impacts

The economic crisis has had an extended impact on areas other than employment. An international seminal review of the last two decades finds health risks associated with a declining economy, specifically with unemployment, including: higher levels of substance abuse, increase in suicide rates, non-specific morbidity, acute cardiovascular disease, and lower birth weights (Catalano et al. 2011). It is noteworthy that according to Wahlbeck and Awolin's review, "in the European Union, every 1% increase in national unemployment rate has been associated with a 0.8% rise in suicides amongst people under 65 years of age" (Wahlbeck and Awolin 2009, p. 1). Stuckler et al. (2011) report a rise of 17% in suicide rates for Greece between 2009 from 2007, however a 2013 survey suggests that prevalence of suicidal ideation and attempts have returned to pre-crisis level; with that said, depression rates are still on the rise (Economou et al. 2016)

A previous study of financial crisis impact on health systems in Europe revealed that some countries, including Greece, decreased the extent of medical coverage by increasing user fees for some health services (Karanikolos et al. 2013). Furthermore, Greece made 40% cutbacks in hospital budgets, which was reflected in understaffing, medical supply shortages, and excessive queues (Kentikelenis et al. 2011). Another sign of health status deterioration is reflected in a 24% rise in admissions to public hospitals in 2010 as compared to 2009, and another 8% rise in the first half of 2011 as compared with the same period in 2010 (Kentikelenis and Papanicolas 2012).

1.3 Mental Health Impacts

Vast research has shown that those who experience unemployment, impoverishment, and family disruptions have a significantly greater risk of mental health problems such as depression, stress, suicide and suicidal ideation, and the mental health of spouses—as compared to the employed (Agerbo 2005; Castanheira et al. 2013; Daly and Delaney 2013; Ezzy 1993; Kalousova and Burgard 2014; Marcus 2013; Paul and Moser 2009; Pellegrini and Rodriguez-Monguio 2013; Reine et al. 2013; Tefft 2011). Men were found to be at increased risk of mental health problems (Artazcoz et al. 2004) and death due to suicide (Berk et al. 2006; Suhrcke and Stuckler 2010) during times of economic adversity. Evidence indicates that debt, financial difficulties, and struggling to pay for housing lead to mental health problems (Brown et al. 2005; Reading and Reynolds 2001; Skapinakis et al. 2006; Taylor et al. 2007). The more debt people had, the higher the chances of having a mental disorder (Jenkins et al. 2008).

In the case of Greece, the long economic crisis has had adverse effects on various aspects of daily life, including the mental health of its citizens. Studies on the prevalence of depressive symptoms and depression in Greece found that in 2011 a one-month prevalence rate for major depression was 8.2%, compared to only 3.3% in 2008 (Economou et al. 2013).

Findings from two cross-sectional nationwide surveys in 2008 and 2009 confirm the association between economic hardship and suffering from major depression (Madianos

et al. 2011), specifically, inability to cope with the financial crisis and unmet basic household needs were most likely the source for depression and feelings of guilt, hopelessness, and helplessness. Indeed, repeated surveys of subjective economic hardship reveal that Greek families have experienced a dramatic decrease in their well-being and socio-economic security (Papadopoulos and Roumpakis 2012). A recent study suggests that the stress is also translated into an increase in road traffic accidents (Vandoros et al. 2014).

Economic pressure, through its influence on parental mental health, marital interaction, and parenting, affects the mental health of children and adolescents as well (Conger et al. 1994; Leinonen et al. 2003; Solantaus et al. 2004). The effects of extreme poverty on children include adverse early childhood development-related outcomes such as deficits in cognitive, emotional, and physical development and the acquisition of productive human capital that is crucial for success in the labor market later in life (Fridman and Strudy 2011; Marmot and Bell 2013). Elder (1994) and McLoyd (1990) suggest that family cohesiveness in the face of adversity moderates conflict, tensions, hostility, mutual avoidance, and disruption in effective parenting, thus preventing the likelihood of developmental difficulties in children and adolescents. When parents—especially fathers—maintained their emotional equilibrium in the face of hardship, it was less likely that children were negatively affected by the crisis and financial difficulties.

1.4 Impact on Trust

Trust is a vital component of community resilience (Norris et al. 2008); it serves the potential of a community to function and adapt efficaciously following disasters. Trust has different roles, such as: being the building block to bonding with other people; it is reflected in "collective efficacy", i.e. the willingness of a community to work together for the common good (Perkins and Long 2002; Sampson et al. 1997); trusted sources of information are crucial following disasters, due to the prevalence of uncertainty, in order to make quick and accurate decisions; and, a sense of trust in local leadership has been associated with better coping and recovery (Wilson 2012). Existing literature regarding community resilience—the ability of a community to overcome emergency situations—emphasizes the perception of leadership competence as a core element of community resilience (Cohen et al. 2013).

The austerity measures, including a harsh anti-social policy, put forward by the Greek government following the crisis had a devastating impact upon the society, forcing large parts of the population into severe insecurity (Papadopoulos and Roumpakis 2012). Greek people feel distressed by the political parties and the latters' ability to lead the country out of the financial crisis (Frangos et al. 2012). A 2012 worldwide poll measuring the changes of trust in government revealed that since 2007 there has been a $\sim$25% decrease in Greek citizens' confidence in their government (OECD 2015). According to the survey, only 12% of Greeks trust their leaders. A loss of confidence in state institutions is also reflected in the sharp decline of trust in economic institutions, for example the European Central Bank (Roth 2009; Wälti 2012).

1.5 The Present Study

Trauma-related literature suggests that following a crisis, most people show a pattern of resilience (Norris et al. 2009) and previous studies of community-level resilience (Cacioppo et al. 2011; Kimhi 2014; Leykin et al. 2013) commonly recognize the following

resilience-fostering resources: trust in leadership and/or other members of the community, economic status, connectedness, cooperation, and social support. Therefore, in the present study, we believed that alongside the harsh ramification of the economic crisis we might be able to see how the Greek community bounces back and adapts, by using similar measures, including: perceptions of economic decline, coping with economic commitments, identification of support sources, political and social trust, and attitudes towards emigration. Furthermore, we included measures of quality of life, well-being, and physical and mental health, which are often used as indicators of resilience in the aftermath of a crisis (Mak et al. 2011; Mikulincer and Florian 1998; Tomás et al. 2012).

Three representative sampling waves took place during 2011 and 2012. The sampling method provided us with an opportunity to identify changes (or the lack thereof) in the lives of Greeks using a longitudinal approach, hoping to broaden our view and make our findings and the ensuing conclusions more comprehensive.

This study sought to provide a better understanding of the impact of the initial phases of the Greek economic crisis on adults so that it may help to provide recommendations for recovery and enhancement of community and national resilience for places facing similar crises (Kimhi 2014; Leykin et al. 2013). Further analysis included results regarding different cohorts of the population in relation to age, a significant factor of resilience (Gooding et al. 2012).

2 Methods

2.1 Participants

Three surveys were performed among representative samples of the Greek adult population (N = 3002) in three sampling waves: December 2011, March 2012, and November 2012. The simple randomized sampling method (Levy and Lemeshow 2013) was chosen, using the telephone directory of the Hellenic Telecommunications Organization. Based on the number of people who completed interviews, refusals and mid-conversation terminations, non-eligible and other non-completers (wrong number, busy lines, fax), response rates were calculated; they were 56.04% (first wave), 55.25% (second wave), and 52.67 % (third wave). These rates are common in previous random digit dialing (RDD) survey methodology (Keeter et al. 2000); RDD is a method widely used in telephone interviews for conducting statistical surveys, in which telephone numbers are chosen randomly from the phonebook (Glasser and Metzger 1972). Statistical weightings of the participants were made with regard to gender, age, and urban region. Participants had an average age of 52.32 years (SD = 16.01, range 20–93 years), 51.6% were women, and 72.5% were married or in a relationship. Table 1 describes demographic characteristics of participants according to the three waves.

Participants represented geographical regions within Greece: Athens, Thessaloniki, East Macedonia/East Thrace, Central Macedonia, Macedonia/Thrace, Epirus, Thessaly, Epirus/Ionian, Peloponnese/West Greece, Thessalia/Sterea, Peloponnese, Northern Aegean, South Aegean, and Crete/Aegean Islands. The majority of participants are from Athens (29.7%), Macedon/Thrace (17.5%), Thessalia/Sterea (15.4%), and Peloponnese/West Greece (10.6%). According to the national readership survey social grade method (social grade, 2015), the majority, 41.9% of our sample was in the "skilled manual working" class (C2) and 25.6% in the "working and non-working" class (D/E). The majority of the sample was

Table 1 Demographics descriptive statistics

	1st wave	2nd wave	3rd wave	Total	χ^2
Gender					
Male	494 (49.4%)	482 (48.2%)	477 (47.7%)	1453 (48.4%)	.65
Female	506 (50.6%)	519 (51.8%)	524 (52.3%)	1579 (51.6%)	
Social class[a]					
A/B	81 (8.1%)	160 (16.0%)	177 (17.7%)	418 (13.9%)	197.21***
C1	85 (8.5%)	232 (23.2%)	240 (24.0%)	557 (18.6%)	
C2	473 (47.3%)	414 (41.4%)	372 (37.2%)	1259 (41.9%)	
D/E	361 (36.1%)	195 (19.5%)	212 (21.2%)	768 (25.6%)	
Urbanity					
Rural	162 (16.2%)	167 (16.7%)	151 (15.1%)	480 (16.0%)	1.00
Non-rural	838 (83.8%)	834 (83.3%)	850 (84.9%)	2522 (84.0%)	
	M (SD)	M (SD)	M (SD)	M (SD)	F
Age	52.67 (15.99)	51.32 (16.24)	52.97 (15.79)	52.32 (16.01)	3.00

Sample background characteristics (N = 3002)

*** $p < .001$, ** $p < .01$, * $p < .05$

[a] Social class was defined according to National Readership Survey (NRS) social grade. A/B—upper middle and middle class, C1—lower middle class, C2—skilled working class, D/E—working and non-working class

retired (27.7%), 14.2% were employed in the private sector, 12.4% were housewives, 11.3% were employed in the public sector, 10% were self-employed, and 11.1% were seeking work.

In comparison, 2014 statistical measurements of the Greek population (Hellenic Statistical Autrhority 2014) report that: 51% are females; the average age is 41.9 years but in some municipalities the average age is as high as 57.9; 50.3% of the population is legally married while 39.1% is single, mostly single males; and the majority of the population resides in Athens ($\sim$61%).

2.2 Measures

All of the following tools are shown in Table 2.

2.2.1 Indicators of Resilience

The subjective measures of current and future perceptions of oneself are reflective of individual resilience.

2.2.1.1 Quality of Life The Cantril Self-Anchoring Striving Scale (Cantril 1965) was used to assess participants' quality-of-life perception. This scale has been used extensively and world-wide in polls and research alike (Gallup and Newport 2011; Kahneman and Deaton 2010). It is comprised of two items which assess perceptions of current and future quality of life, which were found to correlate highly, and statistical analyses have

Table 2 Measures

Measure (no. of items)	Example item(s)	Scale	Source
Indicators of resilience			
Quality of life (2)	Please imagine a ladder with steps numbered from 0 to 10. Suppose we say that 0 represents the worst possible life for you and 10 the best possible life for you, on which step of the ladder would you say you personally feel you stand at this time?	0—the worst possible life, 10—the best possible life	The Cantril Self-Anchoring Striving Scale (Cantril 1965)
Subjective wellbeing (7)	With regard to yesterday, have you experienced stress during most of the day?	Binary (yes/no)	Gallup Healthways Well-being index (Gallup and Newport 2011)
Health related behaviors (9)	Did you do your work or other activities less carefully than usual?	1—constantly, 5—not at all	Gallup Healthways Well-being index (Gallup and Newport 2011)
Perceived Physical and psychological health (2)	On a more emotional level, How would you say that you feel compared with one year ago?	1—excellent, 5—bad	SF-36 Health Survey (Ware and Sherbourne 1992)
Indicators of social resilience			
Economic decline (2)	Compared to one year ago, has your monthly family income suffered any decline?	Binary (yes/no)	These question were devised especially for this study, in order to evaluate participants' economic resilience.
	By what percentage has your family's monthly income declined?	1—up to 30%, 2—31–60%, 3—over 60%	
Coping with economic and occupational commitments (6)	Which of the following best describes how your household is keeping up with all its bills and credit commitments at present?	1—keeping up very easy, 5—keeping up with great difficulty	Eurobarometer polls (European Commision 2010, 2012)
	Looking at the next 12 months, would you say there is a high risk, a moderate risk, a low risk or no risk at all of falling behind with paying your rent or mortgage on time?	High probability, moderate, low or none	
Attitudes toward emigration (2)	Have thoughts of changing residence (moving) within Greece	1—Increased, 2—Decreased, 3—Remained the same	This question was devised especially for this study, in order to evaluate participants' attitudes toward emigration over time as a coping behavior.

Table 2 continued

Measure (no. of items)	Example item(s)	Scale	Source
Source of support due to financial crisis (4)	Have you asked for any support with work related issues?	1—family/relatives, 2—friends/neighbors/ Colleagues, 3—public sector services (social services, local authorities etc.), 4—I have requested support for this need	This question was devised especially for this study, in order to further evaluate participants' ways of coping.
Political and social trust (2)	Generally speaking, would you say that you can trust people or that look as if someone will fool you? How much trust do you have in the Greek Parliament?	0—no confidence in people, 10—absolute confidence	European Social Survey (2014)

suggested that they measure a common dimension (Cantril 1965). The first item explored participants' current perception of their quality of life and was rated on an 11-point scale (0—*the worst possible life*, 10—*the best possible life*): "Imagine a ladder with steps numbered from 0 to 10. Supposing that 0 represents the worst possible life for you and 10 the best possible life for you, on which step of the ladder would you say you stand at this time?" Next, they were asked to perceive their state five years in the future, using a similar rating scale: "In the best of situations, on which step do you think you will stand five years from now?" Based on both items a life evaluation index was calculated ($\alpha = .71$, $r = .56$), and later further classified participants into three groups: (1) suffering (scoring 4 and below)—perceive their current and future life situations negatively; (2) thriving (scoring 7 and above on present life evaluation and 8 and above on future life)—have positive views of their current and future life situations; and (3) the rest are classified as struggling: they have moderate views of their life situation, and are struggling now or believe they will struggle in the future. These groups were previously determined by a comprehensive analysis (Understanding How Gallup Uses the Cantril Scale 2012).

2.2.1.2 Subjective Wellbeing The following scale measures subjective emotional well-being and is based on the widely-used Gallup Healthways Well-being Index (Gallup and Newport 2011). Participants were asked to report whether with regard to yesterday, they experienced six feelings—worry, stress, enjoyment, anger, happiness, sadness—during most of the day. The items were measured on a binary scale (yes or no).

2.2.1.3 Health-Related Behaviors The following scale is also based on the Gallup Healthways Well-being Index (Gallup and Newport 2011). Participants were asked whether certain behaviors have increased, decreased, or remained the same compared to the previous year. Behaviors included: discussions with family and/or friends, physical exercise, smoking, use of medications, consumption of alcoholic beverages, and reporting sick days.

2.2.1.4 Perceived Physical and Psychological Health Two items from the SF-36 Health Survey (Ware and Sherbourne 1992) assessed general and relative health (current health

compared to last year's health). The same scoring system of SF-36 was applied to two items examining current and relative psychological/emotional status ("On an emotional/psychological level, would you say that you feel […], as compared to one year ago").

2.2.2 *Measures of Community Resilience*

The following measures are indicative of community resilience.

2.2.2.1 Economic Decline To estimate whether the monthly family income suffered any decline, participants were requested to estimate this issue in regard to the past year using a binary scale (yes or no), and if they indicated any decline they were further asked to estimate the proportion of the decline according to the following scale: 1—up to 30%, 2—31 to 60%, and 3—over 60%. Questions were devised especially for this study, in order to evaluate participants' economic resilience, a common component of community resilience (Leykin et al. 2013).

2.2.2.2 Coping with Economic and Occupational Commitments Participants responded to several questions examining their ability to cope with financial commitments. The following items were used in Eurobarometer polls of European Union countries (European commision 2010, 2012): an item regarding household bills and credit commitments at present (1—keeping up easily, 5—keeping up with difficulty), and four items estimating the risk probability (high, moderate, low, or none) to: (1) pay rent or mortgage loan on time, (2) coping with an unexpected expense of €1000, (3) repay consumer loans, and (4) pay basic bills or buy food or other daily consumer items. Lastly, a single item explored confidence in the ability to keep one's job in the next 12 months, and was answered on a four-point scale (1—*very confident*, 2—*sure enough,* 3—*not so sure,* 4—*not sure at all*).

2.2.2.3 Attitudes Toward Emigration Participants were asked to report whether thoughts of moving abroad or changing residence within Greece have increased, decreased, or remained the same compared to the previous year. This question was devised especially for this study, in order to evaluate participants' attitudes toward emigration over time as a coping behavior.

2.2.2.4 Sources of Support Due to Financial Crisis Participants were asked to indicate whether they have asked for any support in four main domains: (1) psychological/emotional, (2) financial, (3) work-related, and (4) physical health. This question was devised especially for this study, in order to further evaluate participants' ways of coping.

2.2.2.5 Political and Social Trust Political and social trust were assessed using questions from the European Social Survey (2014). To assess social trust participants were asked, "Generally speaking, would you say that you can trust people? Express your opinion in a scale where 0 means no confidence and 10 means absolute confidence." For political trust, the question phrasing was as follows: "How much trust do you have in the Greek parliament? Express your opinion on a scale where 0 means no confidence and 10 means absolute confidence." These two items were included only in the third wave of sampling. The value 5 was set as a midpoint on the scale for statistical analysis.

2.3 Statistical Analysis

Three datasets containing all variables were merged into a single dataset containing 3002 cases. Data were analyzed using the SPSS v. 19 (Analytics et al. 2013) statistical package. Bivariate correlations were used to assess relationships between variables in this study. Univariate Analysis of Variance (ANOVA) was preformed to examine differences in key variables over time. The weighted least squares (WLS) weight was entered into the analysis to consider age, gender, and urbanity. For these analyses, sampling wave (December 2011, March 2012, and November 2012) was used as the independent variable. In case the analysis yielded significant results, post hoc test using Scheffe correction was used to examine the source of significance. See Table 3 for an overview of the main statistical results.

3 Results

3.1 Indicators of Resilience

3.1.1 Quality of Life

ANOVA showed significant effect of sampling wave on quality of life, $F(2, 2986) = 3.52$, $p < .05$, $\eta_2^p = .002$. The rated quality of life was significantly below average (score of 5 on the ladder) during the first ($M = 4.76$, $SD = 2.40$) and second ($M = 4.69$, $SD = 2.35$) sampling waves: $t(993) = -3.20$, $p < .001$ and $t(993) = -3.20$, $p < .001$ respectively, while during the third phase it was not different than the average quality of life $t(993) = -3.20$, $p < .001$. Moreover, post hoc analysis showed that the only significant difference in present quality of life was the improvement from March 2012 (second wave) to November 2012 (third wave) (*Mean Difference* = .26, $p = .030$). Regarding expected quality of life, no difference was found between sampling waves, $F(2, 2733) = 2.18$, *n.s.* The overall average score was 4.61 ($SD = 2.82$), which was significantly lower than the average score of 5, $t(2732) = -7.23$, $p < .001$. Figure 1 shows the frequencies of people classified into the three groups: suffering, struggling, and thriving. Chi square tests showed that there is significant association between type of classification and sampling wave, $\chi^2(\text{df} = 4) = 20.54$, $p < .001$. Z-test for proportion comparison using the Bonferroni correction method for adjusting p values indicated that, compared to 2011, significantly fewer people were suffering in November 2012 (23.3 vs. 28.3% previously), and more people were struggling (68.7 vs. 60.6% previously). While no significant differences in the percentage thriving was found between 2011 and March 2012, a statistically significant reduction was observed in November 2012 from March 2012 (8.0 vs. 12.6% respectively).

3.1.2 Perceived Physical and Psychological Health

General health did not change over the period of assessment, and approximately 69% of the participants reported their health being good or above. A quadratic effect of sampling wave on relative health was observed, $F(2, 2994) = 7.75$, $p < .01$; the perceived estimation of health compared to the previous year was reduced during the second sampling wave (participants reported their health to be somewhat worse) ($p < .05$), and by the third

Table 3 Differences between sampling waves of main variables

		1st wave		2nd wave		3rd wave		F (df,N)	η^2
		M	SD	M	SD	M	SD		
Quality of life	Current	4.76[a,b]	2.40	4.69[b]	2.35	4.94[a,c]	2.13	3.52 (2,2986)*	.002
Coping with economic and occupational commitments	Coping with financial commitments	3.07[a]	1.13	3.14[b]	1.13	3.34[c]	1.19	13.91 (2,2999)***	.009
	Risk probability	2.34[a]	.967	2.30[a]	.96	2.34[a]	.93	.56 (2,2991)	.000
	Confidence in their ability to keep their job in the next 12 months	2.14[a]	.501	2.20[a]	.55	2.15[a]	.57	3.66 (2,3001)*	.002
Perceived physical health	General health	3.13[a]	.730	3.20[b]	.75	3.11[a]	.78	4.09 (2,2996)*	.002
	Psychological health	3.57[a,b]	1.06	3.61[b]	1.05	3.49[a]	1.05	3.33 (2,2992)*	.002
Attitudes toward emigration	Thoughts of moving abroad	1.85[a]	.98	1.75[a]	.96	1.73[a]	.94	2.08 (2, 1342)	.002
						M	SD	t(N)	
Trust	Social					4.71	2.53	−3.62(993)***	
	Political					1.53	2.21	−49.50(993)***	
		%		%		%		χ^2 (df,N)	
Economic monthly decline	1–30 %	8.2		56.8		8.3		800.69 (4,2527)***	
	31–60 %	58.9		38.4		52.1		800.69 (4,2527)***	
	61 % and above	32.9		4.8		39.6		800.69 (4,2527)***	
Subjective wellbeing	Enjoyment	52.2		47.2		44.8		11.35 (2,2971)**	
	Happiness	42.9		38.2		34.6		14.40 (2,2951)***	
	Worry	63.6		65.8		69.4		7.53 (2,2993)*	
	Anger	41.0		46.1		46.7		7.88 (2,2988)*	
	physical pain	27.3		29.1		28.2		0.81 (2,2996)	
	Stress	64.3		67.4		68.4		4.20 (2,2993)	
	Sadness	36.4		39.0		37.7		1.45 (2,2987)	

Table 3 continued

		%	%	%	χ^2 (df,N)
Health related behaviors	Smoking	28.2	26.6	31.8	3.94 (4,1221)
	Consumption of alcoholic beverages	8.9	9.5	8.7	1.66 (4,1683)
	Exercise	17.6	15.5	17.8	2.78 (4,2666)
	Use of medication	19.2	18.8	18.6	1.61 (4,2170)
	Sick days	19.5	21.9	16.6	18.17 (4,2508)***

Superscript letters indicate significant difference according to Scheffe's post hoc analysis. One sample *t* test was used to identify significant changes in political and social trust 11-point scales, midpoint for comparison was set at 5

* $p < .05$; ** $p < .01$; *** $p < .001$

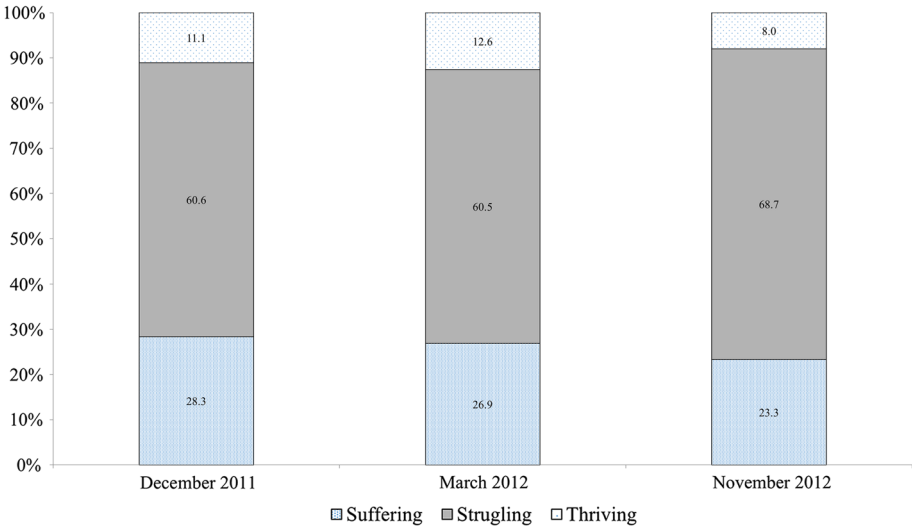

Fig. 1 Quality of life measure. Frequencies of people were classified into the three groups: suffering (scoring 4 and below), thriving (scoring 7 and above on present life evaluation and 8 and above on future life) and struggling (all other scores). N = 3002

sampling wave returned to its baseline level. Similarly, no differences were observed for emotional health.

In the second sampling wave, perceived psychological health was reported to be somewhat worse than the previous year, only compared to the third sampling wave (no differences were observed between first and second, and first and third sampling waves), $F(2, 2996) = 4.09$, $p < .05$. A significant difference between the level of physical and psychological health was observed as well across all sampling waves; perceived psychological health was rated much lower than perceived physical health, $F(1, 2992) = 1248.66$, $p < .001$, $\eta_2^p = .294$.

3.1.3 Subjective Wellbeing

Significant differences were observed between the first and third sampling waves, as reflected in the following: reduction in enjoyment (52 vs. 45% respectively) $\chi^2(df = 2) = 11.35$, $p < .01$, happiness (42.9 vs. 34.6% respectively) $\chi^2(df = 2) = 14.41$, $p < .001$, increase in worry (63.6 vs. 69.4% respectively) $\chi^2(df = 2) = 7.54$, $p < .05$, and anger (41 vs. 46.7% respectively) $\chi^2(df = 2) = 7.88$, $p < .05$, while no significant differences were observed in experiencing physical pain, stress, or sadness.

3.1.4 Health-Related Behaviors

No change was observed in smoking, consumption of alcoholic beverages, performing physical exercise, or use of medications over the three sampling waves. However, during the final sampling wave, 16.6% of the participants reported an increased number of sick days, while during the second sampling wave 21.9% of the participants reported this, $\chi^2(df = 4) = 18.18$, $p < .001$. Fifty-nine percent reported that they reduced the time usually spent on work or their activities at least a few times. Seventy-seven percent

reported that 'they made things less than they would like to' at least a few times, and 62% reported they did their work or related activities less carefully at least a few times as well. No significant differences were observed over the sampling waves ($p > .05$).

3.2 Community Resilience

3.2.1 Attitudes Toward Emigration

Forty-seven percent reported that their thoughts of changing residence within Greece had increased, and 60% reported their thoughts of moving abroad had increased. No differences in the attitudes toward emigration were observed between sampling waves, $F(2, 1340) = 2.08$, $p > .05$.

3.2.2 Sources of Support Due to Financial Crisis

Highest percentages were seen for support by family/relatives and/or friends/neighbors/colleagues. Figure 2 shows the percentage distribution for each support domain.

3.2.3 Economic Decline

Compared to past years, approximately 90% of the participants reported that their monthly family income had suffered decline. Approximately 25% reported 1–30% decline in monthly income, 50% reported decline between 31 and 60%, and 26% reported decline in the size of 61% and above. No differences were found between sampling waves regarding the tendency to report family income decline.

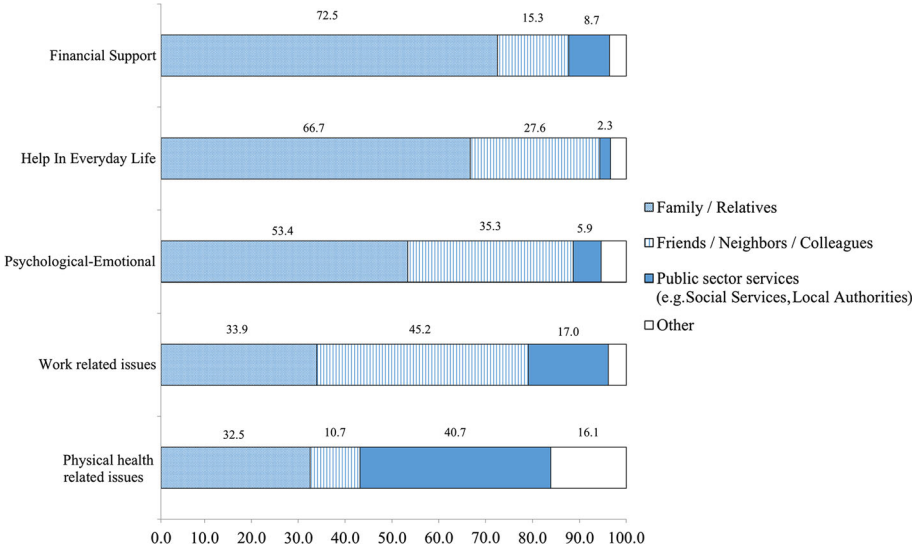

Fig. 2 Sources of support due to financial crisis distribution (N = 3002)

3.2.4 Coping with Economic and Occupational Commitments

Univariate ANOVA showed significant differences in participants' attitudes regarding their ability to cope with financial commitments between sampling waves, $F(2, 2999) = 13.91$, $p < .001$, $\eta_2^p = .009$. Post-hoc testing indicated that while no differences were observed between the first and second sampling waves, participants tended to report more difficulty in coping with economic commitments in March 2012 (compared to December 2011, $p = .001$), and reported even greater difficulty in November 2012 (compared to December 2011 and March 2012, $p = .001$). No differences were observed between sampling waves in the risk probability of paying rent, coping with unexpected expenses, repaying loans, or paying bills. The overall mean score of this scale (ranging from 1 to 4), was 2.32 ($SD = 0.95$), which indicates that the average participant estimated the probability of falling behind on economic commitments to be between moderate and low. In addition, the average participant was ambivalent regarding their ability to retain their job in the next 12 months, as the average score was 2.5 ($SD = 1.07$), reflecting a point between "not too sure" and "sure enough."

3.2.5 Political and Social Trust

The participants' score ($M = 4.71$, $SD = 2.53$) was significantly lower than the set mid-point for social trust as evident by single sample t test, $t(996) = -3.62$, $p < .001$. The participants' score ($M = 1.53$, $SD = 2.21$) was also significantly lower than the set mid-point for political trust as evident by single sample t-test, $t(992) = -49.50$, $p < .001$.

3.3 Further Analysis

In order to assess differences between younger and older populations—which will potentially allow us to gain further insight into the Greek society—the overall sample was divided into 6 age groups, as shown in Table 4. Table 5 includes a statistical summary of the subsequent report. The following measures were used as proxy indicators of resilience:

3.3.1 Quality of Life

The one-way ANOVA analysis showed a significant effect of age group on quality of life, $F(5,2988) = 19.52$, $p < .001$, $\eta^2 = 0.029$. A Scheffe post hoc analysis showed significant differences ($p < .001$) between the first age group, 18–24 ($M = 5.68$, $SD = 1.79$), and age groups 45–54 ($M = 4.41$, $SD = 2.21$), 55–64 ($M = 4.34$, $SD = 2.31$), and 65+ ($M = 4.71$, $SD = 2.62$). Ages 25–34 ($M = 5.64$, $SD = 2.17$) were found to be

Table 4 Sample (N = 3002) divided by age groups

Age group	n (%)
18–24	147 (4.9)
25–34	401 (13.4)
35–44	622 (20.7)
45–54	630 (21.0)
55–64	544 (18.1)
65+	658 (21.9)

Table 5 Significant differences between age groups

	18–24		25–34		35–44		45–54		55–64		65+		F(df,N)	η^2
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Quality of life	5.68^{c}	1.79	5.64^{c}	2.17	$5.12^{c,a}$	2.03	4.41^{b}	2.21	4.34^{b}	2.31	$4.71^{b,a}$	2.62	19.52 (2,2988)***	.029
Psychological health	2.88^{a}	1.07	3.19^{b}	1.16	3.54^{c}	1.04	3.80^{d}	1.00	3.69^{c}	1.01	3.58^{c}	0.98	31.39 (5,2992)***	.050
Trust in parliament	$1.63^{a,b,c}$	1.9	1.01^{a}	1.68	$1.18^{a,b}$	1.80	$1.27^{a,b}$	2.06	$1.79^{b,c}$	2.27	2.13^{c}	2.71	7.05 (5,2992)***	.029

Superscript letters indicate significant difference according to Scheffe post hoc analysis for quality of life variable and Bonferroni post hoc analysis for psychological health and trust in parliament variables

* $p < .05$;** $p < .01$; *** $p < .001$

significantly different from age groups 45–54 (*Mean difference* = .902, $p < .001$), 55–64 (*Mean difference* = .971, $p < .001$), and 65+ (*Mean difference* = .598, $p < .01$). Ages 35–44 ($M = 5.12$, $SD = 2.03$) were significantly different from age group 45–54 (*Mean difference* = .717, $p < .001$) and 55–64 (*Mean difference* = .786, $p < .001$). Age groups 45–54, 55–64, and 65+ were not significantly different from each other ($p > 0.05$).

3.3.2 Psychological Health

The one-way ANOVA analysis showed a significant effect of age group, $F(5, 2992) = 31.39$, $p < .001$, $\eta^2 = 0.002$. Bonferroni post hoc analysis showed significant differences ($p < 0.05$) between the first age group, 18–24 ($M = 2.88$ $SD = 1.07$), and all other age groups: 25–34 ($M = 3.19$, $SD = 1.16$), 35–44 ($M = 3.54$, $SD = 1.04$), 45–54 ($M = 3.80$, $SD = 1.00$), 55–64 ($M = 3.69$, $SD = 1.01$), and 65+ ($M = 3.58$, $SD = 0.98$). Ages 25–34 were also significantly different from all other age groups ($p < .05$). Ages 35–44 were significantly different ($p < .05$) from age groups 18–24, 25–34, and 45–54, and non-significant from age groups 55–64 ($p > .05$) and 65+ ($p > .05$). Ages 55–64 and 65+ were not found to be significantly different from each other ($p > .05$). Also, aged 65+ were significantly different from ages 45–54 ($p < .05$).

3.3.3 Trust

ANOVA for trust in the Greek parliament between different age groups showed a significant effect of age group $F(5,2992) = 7.05$, $p < .001$, $\eta^2 = 0.017$. Bonferroni post hoc comparisons found significant differences ($p < .05$) between age group 25–34 ($M = 1.01$, $SD = 1.68$) and age groups 55–64 ($M = 1.79$, $SD = 2.27$) and 65+ ($M = 2.13$, $SD = 2.71$); between age group 35–44 ($M = 1.18$, $SD = 1.80$) and aged 65+; and between age groups 65+ and 45–54 ($M = 1.27$, $SD = 2.06$). No significant differences were found between the age group 18–24 and all other groups ($p > .05$).

4 Discussion and Recommendations

The current study presents a comprehensive outlook on the influences of the economic downfall of Greece via three sample waves which took place during 2011 and 2012. It combines measures indicative of resilience, both individual and communal.

Several studies have reported that the longer the time since the critical event, the greater the possibility for positive growth (Córdova et al. 2001; Polatinsky and Esprey 2000). Similarly, an overall increase in quality of life was reported during the third sampling wave. Our findings also suggest that fewer people are to be classified as suffering and more people should be classified as struggling. Whereas suffering reflects hardship, struggling reflects one's efforts to achieve something in the face of difficulty—a resilient outlook. Other findings also reflect and expand on this positive trend, such as an overall report of good physical health and no deterioration in perceived physical health, well-being indices (pain, sadness, and stress), or health-related behaviors. However, between the first and the final sampling waves there was a significant reduction in feelings of enjoyment and happiness, and an increase in worry and anger. Hence it is important to mention that growth and distress might be viewed as two independent dimensions of experience (Linley and Joseph 2004): high scores on one neither rule out high scores on the other nor imply low

scores. Moreover, perceived mental health was rated lower than perceived physical health, however it fluctuated during the measuring waves and ended on a positive note.

Further, results indicated that the younger population, ages 18–24, perceived their mental health to be somewhat better than last year, and ages 24 and above reported, on average, no change in their perceived mental health. Nevertheless, other findings agree with previous studies which report rising unemployment rates and inability to cope with everyday financial demands (Frangos et al. 2012; Aspridis et al. 2014). Reports on quality of life showed a clear continuous trend of age wherein the older one is, the less positive a view one holds on quality of life. These findings also agree with a previous study which had demonstrated that 43% of pensioners believed that life had worsened after retirement, and that 40% were forced to work to survive (Tsiantos 2010 as cited in Aspridis et al. 2014). Still, the youngest ones reported willingness to leave Greece, probably in the hope of finding a better economic climate, whereas this option is likely not open to the older generation, thus affecting their reports.

Trust has been found to be a protective factor with respect to suicidal ideation (Economou et al. 2013). Even though the elderly population reports a lower quality of life and might be forced to continue working longer, significantly higher ratings of trust found in their sample of this study might serve as a protective factor against actual suicidal risk. However, ratings of trust in the Greek parliament were low for all age groups.

4.1 Coping with the Crisis

Support from various sources was found to be detrimental to coping. Norris et al. (2002) reviewed empirical literature with a cumulative number of 60,000 participants, focusing on the factors which helped them and factors which were negative predictors to their coping. Although the threats in almost all of Norris' review were from natural or human-made disasters, the impact of the economic crisis in Greece shares many of the features of a large-scale disaster.

Norris' review emphasizes that the greater the amount of resource loss—regardless of specific resources—the greater the psychological distress. It emphasizes the role of perceived social support during a crisis; with few exceptions, affected people who subsequently believe that they are cared for by others and that help will be available if needed, fare better psychologically than those who believe they are unloved and alone. In light of these findings and in conjunction with previous studies (Norris et al. 2002; Walsh 2007) we identify that family and social connections provide vital resources in the current crisis. In accord, in the current study, the major resource reported for psychological/emotional and financial support was family (followed by friends, neighbors, and/or colleagues) but not government or other official services. These findings agree with a recent Greek report (Botsiou and Klapsis 2011) which affirmed that the best sources of support are family and friends, family giving between 85% in financial support to 78% with everyday activities to 70% in psychological/emotional support. Friends gave 61% support in work-related issues and 45% in psychological/emotional support, in comparison the public sector services: 6% in psychological/emotional support and 9% in financial support.

A possible conclusion may be that with declining trust in the public sector and a foreseeable solution, the basic need for security and trust have been redirected to traditional family ties as the primary source of support. This tendency is reinforced by data indicating that many have left the cities and gone to live with family in rural areas (Remoundou et al. 2015). The results of this three-point study confirmed some known aspects and shed light on other specific topics. The overall deterioration in psychosocial

measures—be it psychological distress, disappointment, mistrust in the system, or a gloomy perception of the future—are just one side of the coin. Like many European states in the 90 s, Greece went through urbanization and movement from the traditional village or small town mentality to a more western, individualistic lifestyle, however the current crisis forced many to leave the cities (mainly Athens) due to growing debts and unmet financial commitments and seek support and shelter in the traditional village, mostly with family and friends (Remoundou et al. 2015). Some may see this trend as regression, yet we would like to suggest that this trend is a source of survival and even recovery. We would like to see the trend of returning to a smaller community as a potent resiliency factor. Similarly, Berkeley, California, a small city faced with threats of flood and fires, has released its resilience strategy, wherein the foremost goal is to strengthen bonds between neighbors. According to the chief resilience office of Berkeley, they aim to invert the tendency of neighborhoods and communities to come together in the wake of a disaster (Anzilotti 2016).

4.2 Community Resilience-Based Recommendations

Community resilience has been defined as the sum of a community's efforts to take focused action—which combines the personal and collective abilities of its residents and institutions—and to respond efficiently to changes in the security, social, or economic situation in order to influence the future course of the community (Peled 2004); or, "the ability of community members to take meaningful, deliberate, collective action to remedy the impact of a problem, including the ability to interpret the environment, intervene, and move on" (Pfefferbaum et al. 2007). Community as a source of livelihood and exchange of both commerce and services needs a new perspective. A community resiliency center, a somewhat recent structure (Lahad and Ben-Nesher 2008), coordinates all of the necessary services; it can be under the local council in conjunction with the community center or local religious organization, and constitute all community partners: education, welfare, health, commerce, legal advice, family counseling, volunteers, recreation, and vocational training or a job center. We further recommend pooling resources such as psycho-social and health services under one roof. The center will assess resources as well as needs, and will function with a variety of committees and a steering board that will look into the many challenges, and opportunities to promote community resilience.

Numerous resiliency centers are being established worldwide; for example, five centers are currently available in Israel, providing services for over 60,000 citizens living in high-risk areas, including: Physical and psychological first-aid, preparedness programs for the community, emergency training for citizens with special needs, for parents, caretakers etc. (Levanon 2011).

In order to measure the effectiveness of various community projects and activities we recommend that future studies be aided by validated tools for monitoring community resilience such as the Conjoint Community Resiliency Assessment Measure (CCRAM) (Leykin et al. 2013). This tool facilitates the estimation of an overall community resiliency score and detects the strength of five important constructs of community functions following a crisis: leadership, collective efficacy, preparedness, place attachment, and social trust. The factor of collective efficacy is of greater importance here as it is made up of terms referred to in the literature as community mastery (Hobfoll et al. 2002), perceived social support (Norris et al. 2008), cohesion, and willingness to intervene on behalf of the common good (Hobfoll et al. 2002; Norris et al. 2008; Sampson et al. 1997). Further

studies of coping methods and resilience amongst Greeks will allow us to achieve better insight and will lay the foundation for a more detailed and tailored support system.

4.3 Limitations

Since the data for this study was collected, further major events have taken place in Greece and thus our results may not portray the current status. However, the data was collected following the initial events of the economic crisis, and over a substantial period of time, therefore it is still relevant. A major limitation of this study is its correlative and subjective nature; no objective measures of mental and physical health were included in the study. Furthermore, the current study did not include important measures of mental health such as the prevalence and/or occurrence of mental disorders, suicides, and accidents. These measures might have shed even more light on the mental health status.

5 Conclusion

The current study reviewed the influence of Greece's economic downfall on its population via three sampling wave that took place during 2011 and 2012. In accordance with the grim nature of this event, we were not surprised to see that Greeks have lost trust in the government and that many are still suffering. The hardships of Greeks are well-documented by previous studies, as mentioned in the literature review of this article. Nevertheless, we believe that a major contribution of the current study is revealing the silver lining: even in the worst situation it is possible to find adaptive powers. By sampling the population at three different time points and using numerous subjective measures, which can reveal the resilient nature of the population, we were able to infer possibilities and recommendations for current and future plans for enhancing recovery. In light of our findings, we suggest that future solutions, i.e., recovery plans, should concentrate on social and family ties as sources of support and positive growth.

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