

The prevalence and predictors of passive death wishes in Europe: a 2-year follow-up of the survey of health, ageing, and retirement in Europe

Liat Ayalon

Louis and Gabi Weisfeld School of Social Work, Bar Ilan University, Ramat Gan, Israel
Correspondence to: L. Ayalon, E-mail: ayalonl@mail.biu.ac.il

Objectives: This study evaluated regional variations (South, Centre, and North of Europe) in passive death wishes (wish to die) and predictors of passive death wishes, using a cross-national longitudinal design.

Methods: The Survey of Health, Ageing, and Retirement in Europe (SHARE) is a cross national European survey of individuals over the age of 50 and their spouse of any age. This study relied on wave 1 and 2 of SHARE. Passive death wishes were evaluated using an item from the Euro-D. A variety of clinical and sociodemographic variables were evaluated as potential predictors.

Results: The rate of passive death wishes was significantly lower in Northern Europe (4.6%) than in Southern (8.5%) and Central Europe (7.0%). Older adults, females, those reporting more depressive symptoms, more medical conditions, and lower levels of hope in wave 1 were more likely to report passive death wishes in wave 2, unrelated to geographic region. In contrast, passive death wishes reported in wave 1 were a stronger risk for passive death wishes in wave 2 for Northern Europeans than for Southern Europeans.

Conclusions: Despite notable geographic differences in the prevalence rate of passive death wishes, most predictors evaluated in the present study function similarly across the three European regions. Copyright © 2010 John Wiley & Sons, Ltd.

Key words: suicide; epidemiology; cross-national; older adults

History: Received 19 May 2010; Accepted 29 July 2010; Published online 28 December 2010 in Wiley Online Library (wileyonlinelibrary.com).

DOI: 10.1002/gps.2626

Introduction

Older men are at the greatest risk for complete suicide in Europe as well as in almost all other countries around the globe (Conwell, 2009). Compared to younger adults, the risk for suicide is three times higher in the elderly (Belanger *et al.*, 2008). Alarming, the rates of suicide in older adults have been increasing over the years, rather than decreasing and are expected to continue and increase in future years (Conwell, 2009).

Whereas passive death wishes are not synonymous with active suicidal ideation, suicide acts or death by suicide, they are correlated (Fawcett *et al.*, 1993; Pfaff

and Almeida, 2004; Dennis *et al.*, 2007). Furthermore, passive death wishes, as represented by the wish to die, have shown to be of unique importance as a mortality risk, irrespective of depression, leading some researchers to conclude that routine screening for passive death wishes is desired in order to identify individuals who are at a greater risk for death, though not necessarily by suicide (Raue *et al.*, 2010). Given the high emotional and financial toll associated with death wishes, attempted suicide, and death by suicide, there is an urgent need to identify specific high risk groups in the population.

Community studies have identified several risk factors associated with death wishes and suicidal ideation in the

general population. These include the presence of depression (Goldney *et al.*, 2000; Turvey *et al.*, 2002; Ayalon and Litwin, 2009), hopelessness (Ayalon and Litwin, 2009), cognitive impairment (Ayalon and Litwin, 2009), and traumatic life events (Goldney *et al.*, 2000), as well as financial loss (Turvey *et al.*, 2002) and unemployment (Hintikka *et al.*, 2001).

To date, cross national research on the prevalence and predictors of death wishes and suicidal ideation has been limited to cross sectional studies, most combining results from several different studies for comparative purposes, thus making it difficult to conclude whether differences are due to cultural variations in risk and protective factors of suicidal ideation or due to the different methodology used. The very few studies that conducted cross national research found significant variations in suicidal ideation (Eshun, 1999; Weissman *et al.*, 1999; Casey *et al.*, 2008; Shah *et al.*, 2008), with certain European countries demonstrating high rates of suicidal ideation whereas the Caribbean, Central America, and certain Arabic countries demonstrating lower rates of suicidal ideation (Shah *et al.*, 2007). The one study to examine correlates of suicidal ideation from a cross national perspective has argued that a common set of variables independent of the specific country is associated with suicidal ideation. However, the authors concluded that longitudinal studies are required to confirm this conclusion (Casey *et al.*, 2006).

The Survey of Health, Ageing, and Retirement in Europe (SHARE; Börsch-Supan *et al.*, 2008) provides a unique opportunity to evaluate predictors of death wishes using a longitudinal, cross-national design. The use of data collected in 11 European countries in the year 2004 and subsequently in 2006–2007, allows for evaluating regional variations in the prevalence of passive death wishes as well as potential predictors of passive death wishes. Past research has consistently demonstrated a geographic health gradient, with older adults in Southern Europe being more likely to suffer from physical health problems (Huisman *et al.*, 2003), higher levels of depression (Ladin, 2008), and greater disability than Northern Europeans (Andersen-Ranberg *et al.*, 2009). Older adults in the South of Europe are also less likely to reside in long term care institutions (Gaymu *et al.*, 2006) and are more likely to die in their home (Hank and Jürges, in press), relative to older adults in the North of Europe. Hence, European regional variations in health, mental health, and social behaviors are well supported.

Given these well-documented regional differences, it is important to identify whether the prevalence and correlates of passive death wishes vary by region or

whether they are equivalent across regions. Such an analysis would allow distinguishing between the micro (individual and family levels) and the macro levels (any thing above) (Kohli, 2004). Whereas differences at the micro level have been well studied, differences at the macro level have received only limited attention. If indeed regional variations are identified, further research is required in order to better identify what variables at the macro level are responsible for such variations. According to a recent conceptualization, macro level variables can be divided into three factors: cultural, institutional, and structural (Kohli, 2004). In the study of mental illness, cultural factors, such as religiosity, values, or use of language have most often been identified as potential explanatory variables at the macro level (Kirmayer, 2001; Ayalon and Young, 2003). In contrast, institutional factors, such as family and social security policy and structural factors, such as labor-force structure or income and wealth distribution have received limited attention.

This is the first study to evaluate regional variations in passive death wishes and their predictors using a longitudinal design. Relative to cross sectional designs, the use of a longitudinal design allows demonstrating stronger associations between passive death wishes and the various predictors. The focus on 11 countries in Europe is yet another advantage as it potentially allows generalizing the findings across different cultures and societies. A North South gradient in passive death wishes was expected, with older adults in Northern Europe reporting the lowest rates of passive death wishes and those in the South reporting the highest rates of passive death wishes. Based on the only other study to evaluate correlates of suicidal ideation cross-nationally (Casey *et al.*, 2006), it was expected that sociodemographic and clinical predictors of passive death wishes would not vary across region.

Methods

SHARE (Börsch-Supan *et al.*, 2008) is modeled after the American Health and Retirement Study (HRS). It is the first European dataset to combine cross-national with longitudinal information on health, health behaviors, financial status, and social relationships. Countries included in SHARE are balanced to represent various regions in Europe: North (e.g., Denmark, the Netherlands, and Sweden), Centre (e.g., Austria, France, Germany, Switzerland, and Belgium), and South (Spain, Italy, and Greece). The target population is defined as all individuals born in 1954 or earlier, speaking the official language of the country

and not living abroad as well as their spouse/partner independent of age. The present study is focused on those 11 countries that contributed to the first wave of SHARE in 2004 and to the second wave in 2006–2007. Analysis is limited to those individuals who answered the computer-assisted personal interview based main interview, the supplemental drop-off questionnaire in wave 1 as well as the Euro-D question concerning passive death wishes in wave 2. This resulted in a total sample of 12 005 respondents in 11 European countries.

To ensure linguistic and cultural comparability as well as comparable form of administration across countries, the SHARE management is built hierarchically. The hierarchy consists of country teams, cross-national working groups, and a single coordinating management group. In addition, expert consultation in the design, development, and ongoing implementation of SHARE has been available from other major epidemiological studies of this sort. For detailed discussion concerning study design and attrition, see Schröder (2008).

Measures

Passive death wishes. Based on an item taken from the Euro-D, a face-to-face administered measure of depression (Prince *et al.*, 1999): “in the past month, have you felt that you would rather be dead?” Response options are: “yes” (1)-participant has mentioned passive death wishes versus “no” (0)-no passive death wishes mentioned. A similar question was used in past research as an indicator of death wishes (Casey *et al.*, 2006; Ayalon *et al.*, 2007; Ayalon and Litwin, 2009).

Geographic region. Overall, 11 countries participated in both waves. These countries were classified into the following regions: North (e.g., Denmark, the Netherlands, and Sweden), Centre (e.g., Austria, France, Germany, Switzerland, and Belgium), and South of Europe (Spain, Italy, and Greece).

Depressive symptoms. The 14-item Centre for Epidemiological Studies of Depression questionnaire (CES-D) was used as an indicator of depressive symptoms. The CES-D is a well-known measure, frequently used to assess depressive symptomatology in the general population. Participants are asked to indicate the frequency with which they felt each of the symptoms within the past week on a four-point scale. If at least eight items were completed, positively worded items were reverse coded and a composite score was constructed with a higher score indicating more depressive symptoms (range 4–56) (Radloff, 1977).

The CES-D was used as an indicator of depressive symptoms instead of the Euro-D, in order to prevent multicollinearity between the suicide item taken from the Euro-D and overall depression. Relative to the Euro-D, the CES-D has the advantage of using a different response scale from the suicide item and of being administered in a paper-and-pencil format rather than an interview format. None of the 14 CES-D items addresses suicidal ideation or death wishes.

Hope. The measure of hope was comprised of seven questions concerning one's expectations and beliefs about the future and perceived ability to cope with the future. Questions originate from the Life Orientation Test-Revised and from the Hope scale (Scheier *et al.*, 1994; Snyder *et al.*, 1996). Items are ranked on a five-item agree-disagree scale. The range of scores is 7–35, the higher the score, the greater one's sense of hope is.

Medical status. Respondents were asked whether a physician had told them they suffer from: heart attack, high blood pressure, high cholesterol, stroke, diabetes, chronic lung disease, asthma, arthritis, osteoporosis, or cancer. A composite score of overall number of medical conditions was constructed with a higher score representing more medical conditions (range 0–10).

Activities of daily living (ADL). Respondents were asked whether they are limited in performing every day activities, such as dressing up, walking across the room, showering, using the restroom, eating, or getting in and out of bed. A composite score ranging from 0 to 6 was calculated, with a higher score representing greater impairment.

Instrumental activities of daily living (IADL). Respondents were asked whether they are limited in performing instrumental activities of daily living, such as reading a map, shopping for groceries, or taking medication. A composite score ranging from 0 to 7 was calculated, with a higher score representing greater impairment.

Cognitive functioning. All cognitive measures were obtained in face-to-face interviews by surveyors specifically trained in their administration. Cognition was evaluated using five measures: time orientation, arithmetic, verbal fluency, verbal learning, and verbal recall. A composite score of all five measures was constructed in order to reflect overall cognitive functioning, with a higher score indicating better cognitive functioning. Range is from 0 to 87.

Demographic information. Age, gender, marital status (married vs. not), household composition (alone, couple, family/other) and level of education were gathered based on self-report.

Analysis. Bivariate analyses by geographic region were conducted. Next, logistic regression was conducted with death wishes in wave 2 as the outcome variable. All demographic variables (age, gender, marital status, level of education, household composition, and geographic region) and clinical variables (depressive symptoms, hope medical status, ADL, IADL, passive death wishes, and cognitive functioning as evaluated in wave 1) were entered as potential predictors. In order to evaluate whether predictive variables differ by geographic region, interactions between each of the potential predictors and geographic region were evaluated separately and all significant interactions were entered into the final model. All analyses were conducted using STATA 10.0 complex survey commands to account for design characteristics of SHARE.

Results

Table 1 presents the demographic and clinical characteristics of the sample by geographic region. The majority of the sample was female (54%) and married (68%). Mean age was 64 (SE = 0.14) and average level of education was 10.1 years (SE = 0.08). There were significant geographic differences in the prevalence rate of passive death wishes as reported in both wave 1 and 2. In wave 1, the prevalence rate of death wishes was 4.6% in the North, 7.3% in the Centre, and 8.4% in the South ($\chi^2 = 20.5$, $p = 0.006$). Consistently, in wave 2, the prevalence of passive death wishes was 4.6% in Northern Europe, 7.0% in the Centre, and 8.5% in the South ($\chi^2 = 25.4$, $p = 0.008$). Although the rates of passive death wishes are quite comparable across the two waves, as clearly demonstrated in Table 1, in most cases, those reporting passive death wishes in wave 1 are not the same individuals as those reporting passive death wishes in wave 2.

In Southern Europe, there were significant differences between those reporting death wishes and those denying such ideation in wave 2, on all demographic and clinical variables measured in wave 1; those reporting death wishes in wave 2, were older, more likely to be female, had lower levels of education, were less likely to be married, more likely to live alone, more likely to report depressive symptoms, less likely to report hope, more likely to report worse medical status and greater functional limitations. They also were more likely to

have worse cognitive functioning and to report death wishes in wave 1, relative to those who did not report death wishes in wave 2. The same was true for Central Europe with the exception of level of education, which did not differentiate between those reporting passive death wishes and those denying such ideation. In Northern Europe, those who reported death wishes in wave 2, were older, less likely to be married, less likely to report depressive symptoms and hope and more likely to report worse medical status, worse functional impairment, and passive death wishes in wave 1.

Table 2 summarizes the results of the multivariate logistic regression conducted in order to identify predictors of passive death wishes reported in wave 2. Older adults and females were more likely to report passive death wishes in wave 2. In addition, those reporting more depressive symptoms, less hope, and those with more medical conditions in wave 1 were more likely to report passive death wishes in wave 2. There also was a significant interaction between passive death wishes reported in wave 1 and geographic region. Relative to Northern Europeans who reported passive death wishes in wave 1, Southern Europeans reporting passive death wishes had 0.37 lesser odds of reporting passive death wishes in wave 2 (CI: 0.20–0.70, $p < 0.01$). In contrast, Central Europeans who reported passive death wishes in wave 1 had non-significantly different odds of reporting passive death wishes in wave 2 relative to Northern Europeans (OR = 0.63, CI: 0.34–1.17, $p = 0.14$). Nevertheless, it is important to note that reports of passive death wishes in wave 1 served as a significant predictor of passive death wishes in wave 2 in all three geographic regions (North: OR = 12.04, CI: 7.15–20.26, $p < 0.001$, Center: OR = 4.95, CI: 3.03–8.10, $p < 0.001$, and South: OR = 3.16, CI: 1.97–5.06, $p < 0.001$).

Discussion

This is the first study to evaluate predictors of passive death wishes cross-nationally using a longitudinal design. Given the detrimental role of passive death wishes in the lives of so many older adults, there is clearly a need to identify predictors of passive death wishes and to assess their variability across geographic region. The rates of passive death wishes were significantly lower in the North of Europe (4.6%) relative to the Centre (7%) and South of Europe (8.5%). These rates are largely consistent with past research that reported a variable prevalence rate of death wishes ranging from 2.3% to 14.6% across several European

Table 1. Demographic and clinical characteristics of the sample by passive death wishes in wave 2

	Total (12 005)		Northern Europe		Central Europe		Southern Europe	
	No passive death wishes in wave 2 (3301)	Passive death wishes in wave 2 (144)	No passive death wishes in wave 2 (4826)	Passive death wishes in wave 2 (362)	No passive death wishes in wave 2 (3160)	Passive death wishes in wave 2 (210)	F/χ^2	p
Age	64.4 (0.14)	67.6 (1.04)	63.0 (0.23)	69.4 (1.11)	64.7 (0.26)	70.7 (1.04)	36.7	<0.001
Gender								
Female	1771 (54.4%)	85 (61.5%)	2557 (53.7%)	242 (66.9%)	1719 (52.1%)	162 (78.0%)	67.08	<0.001
Education	10.1 (0.08)	12.3 (1.58)	12.0 (0.13)	10.5 (0.85)	7.5 (0.12)	5.1 (0.33)	45.39	<0.001
Marital status								
Married	2493 (68.4%)	96 (56.3%)	3465 (69.1%)	199 (47.1)	2407 (72.1%)	128 (50.6%)	55.29	<0.001
Household composition								
Alone	2458 (23.2%)	43 (40.0%)	1024 (23.1%)	133 (42.5%)	506 (17.6%)	56 (36.2%)	57.66	<0.001
Couple	6397 (46.8%)	83 (45.8%)	2754 (56.8%)	169 (41.5%)	1191 (33.7%)	75 (30.2%)		
With family/ others	3150 (29.9%)	18 (14.1%)	1048 (19.9%)	60 (15.8%)	1463 (48.5%)	79 (33.4%)		
Depressive symptoms	23.4 (0.09)	27.1 (0.64)	22.4 (0.13)	27.4 (0.59)	24.2 (0.15)	30.9 (0.72)	82.28	<0.001
Hope	24.4 (0.06)	23.3 (0.37)	24.6 (0.09)	21.3 (0.37)	24.4 (10)	20.5 (0.49)	57.43	<0.001
Medical status	1.2 (0.01)	1.5 (0.13)	1.2 (0.02)	1.8 (0.13)	1.3 (0.03)	2.1 (0.13)	43.06	<0.001
Activities of daily living	0.2 (0.01)	0.2 (0.07)	0.1 (0.01)	0.4 (0.09)	0.1 (0.01)	0.5 (0.09)	1572	<0.001
Instrumental activities of daily living	0.2 (0.01)	0.4 (0.10)	0.2 (0.01)	0.7 (0.13)	0.2 (0.02)	0.8 (0.12)	22.57	<0.001
Death wishes in wave 1	725 (7.4%)	56 (42.3%)	294 (5.1%)	189 (39.2%)	155 (6.6%)	91 (33.1%)	217.95	<0.001
Total cognitive functioning	31.6 (0.12)	33.3 (0.79)	34.9 (0.21)	30.2 (0.94)	26.7 (0.18)	22.5 (0.88)	2098	<0.001

Table 2. Logistic regression predicting death wishes in wave 2^a

	OR	CI	p
Geographic region			
North			
Center	1.53	1.09–2.14	0.04
South	1.44	0.97–2.13	0.11
Age	1.03	1.01–1.04	<0.01
Gender			
Male			
Female	1.36	1.03–1.80	0.03
Education	1.00	0.98–1.02	0.89
Marital status			
Not married			
Married	0.77	0.49–1.22	0.26
Household composition			
Alone			
Couple	1.26	0.73–2.18	0.38
With family/ others	1.16	0.68–1.97	0.55
Depressive symptoms	1.04	1.02–1.07	<0.001
Hope	0.92	0.89–0.96	<0.001
Medical status	1.17	1.06–1.29	<0.01
Activities of daily living	0.97	0.80–1.17	0.77
Instrumental activities of daily living	1.09	0.92–1.28	0.28
Cognitive functioning	0.99	0.97–1.01	0.47
No death wishes in wave 1			
Death wishes in wave 1	12.04	7.15–20.26	<0.001
Geographic region × death wishes wave 1			
North × death wishes wave 1			
Center × death wishes wave 1	0.41	0.20–0.82	0.01
South × death wishes wave 1	0.26	0.13–0.51	<0.001

^a $F(17, 11\ 922) = 25.8, p < 0.001$.

countries, with the most frequent rate being 7.4% (Casey *et al.*, 2006).

With the exception of passive death wishes reported in wave 1, there were no significant differences by geographic region in predictors of passive death wishes, suggesting that most predictors evaluated in the present study have similar effects in all three European regions: North, Centre, and South. The study shows that older adults, females, those reporting more depressive symptoms, worse medical status, and lower levels of hope in wave 1 are more likely to report passive death wishes in wave 2. All of these predictors have shown to function similarly across the three regions evaluated in this study. The one exception, which does not function

similarly in the three regions, is passive death wishes in wave 1. Although in all three regions, passive death wishes in wave 1 were predictive of passive death wishes in wave 2; Southern Europeans, reporting death wishes in wave 1 have significantly lower odds of reporting passive death wishes in wave 2 relative to Northern Europeans. In contrast, Central Europeans reporting passive death wishes in wave 1 have similar odds of reporting death wishes in wave 2 as Northern Europeans. Important to note that although the rates of passive death wishes are quite comparable across the two waves, there is a natural fluctuation in the report of passive death wishes, with those reporting passive death wishes in wave 1 not necessarily being the same individuals as those reporting passive death wishes in wave 2. It appears that reports of passive death wishes have a somewhat different course across the three regions evaluated in this study. People in the North of Europe, who are the least likely to reveal their passive death wishes, are actually at a greater risk of continuing to experience passive death wishes even 2 years subsequently. Possibly, in Northern Europe only the most distressed individuals are the ones who report passive death wishes and, therefore, this highly distressed group continues to experience passive death wishes over time. In Southern Europe, on the other hand, reports of passive death wishes are more prevalent, but are less likely to continue over time. This may suggest a general tendency to report high levels of symptomatology, unrelated to distress level in the South. Future research employing item response theory might be beneficial in identifying differences in report style across regions.

The present study has several limitations that should be acknowledged. First, only a specific set of potential predictors at the individual level was evaluated. Other studies may benefit from evaluating potential predictors also at the macro level. Use of multi-level analysis will allow identifying potential macro level variables of importance at the country level, such as financial stability or social norms. Second, the construct of passive death wishes was evaluated using a single question. Even though, such a methodology has been used in past research, it might be preferable to use a more thorough scale that evaluates both passive and active suicidal ideation. In addition, the present study was limited to evaluating only passive death wishes. This results in a non-specific sample of individuals, some of whom might have experienced active suicidal ideation in addition to passive death wishes. It would be highly informative to include questions concerning active suicidal ideation in future studies. It also is important to note that passive death wishes are not synonymous

Key points

- Passive death wishes are associated with increased mortality risk.
- There is limited data on cross-national variations in passive death wishes.
- The present study found passive death wishes to be significantly lower in the North.
- Most predictors of passive death wishes function similarly across geographic regions, with the exception of passive death wishes in wave 1.
- Passive death wishes reported in wave 1 were a stronger risk for passive death wishes in wave 2 for Northern Europeans than for Southern Europeans.

with acts or with complete suicide. Hence, further research is much necessary to identify regional variations and predictors of suicide acts and complete suicide.

Nevertheless, this is the first study to evaluate predictors of passive death wishes using a longitudinal cross national design. The findings reveal limited differences by geographic region, with the majority of predictors behaving similarly in the three European regions evaluated in the present study; older adults, females, those reporting more depressive symptoms, lower hope, and worse medical status in wave 1 were more likely to report passive death wishes in wave 2. The one exception was passive death wishes reported in wave 1, which is a stronger risk for future death wishes in the North than the South of Europe. Hence, suggesting a potentially different course of passive death wishes in the different geographic regions evaluated.

Acknowledgements

This paper uses data from SHARE release 2.3.0, as of November 13th 2009. SHARE data collection in 2004–2007 was primarily funded by the European Commission through its 5th and 6th framework programmes (project numbers QLK6-CT-2001-00360; RII-CT-2006-062193; CIT5-CT-2005-028857). Additional funding by the US National Institute on Aging (grant numbers U01 AG09740-13S2; P01 AG005842; P01 AG08291; P30 AG12815; Y1-AG-4553-01; OGH A 04-064; R21 AG025169) as well as by various national sources is gratefully acknowledged (see <http://www.share-project.org> for a full list of funding institutions).

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