

Research Article

Passive Suicide Ideation: An Indicator of Risk Among Older Adults Seeking Aging Services?

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Abstract

Objectives: This study examines patterns of endorsements of active suicide ideation (SI), passive SI (synonymous with death ideation), and psychological distress (i.e., depressive and anxious symptomatology) in a sample of vulnerable older adults.

Methods: Data were collected via in-home interviews with aging services care management clients aged 60 years and older ($n = 377$). The Paykel scale for suicide measured the most severe level of suicidality over the past year, and the ninth item of the Patient Health Questionnaire (PHQ-9) measured current passive/active SI. The remaining items from the PHQ (i.e., PHQ-8) and the Goldberg Anxiety scale measured distress.

Results: Latent class analysis revealed a four-class model: a group with mild distress and no active SI, a group with high distress and no ideation, a group with mild distress and both passive and active SI, and a group with high distress and both passive and active SI.

Discussion: Results indicate that passive SI rarely presents in vulnerable older adults in the absence of significant risk factors for suicide (i.e., psychological distress or active SI). Thus, the desire for death and the belief that life is not worth living do not appear to be normative in late life.

Key Words: Suicide, Depression, Anxiety, Suicidal ideation, Risk assessment, Geriatrics, Aging Services

The paradox of emotional aging (e.g., [Mather, 2012](#)) describes the seemingly incompatible findings that despite losses in function, cognitive capacity, and social network size, older adults experience higher levels of emotional well-being than those at younger ages. This maintenance, and even enhancement of emotional well-being is supported by evidence of more frequent experiences of positive

emotions ([Carstensen et al., 2011](#)) and lower levels of major depressive disorder among older adults ([Fiske, Wetherell, & Gatz, 2009](#)). The paradox has been posited to occur because many types of emotion regulation are preserved in the process of brain aging ([Mather, 2012](#)), and some types of emotion regulation may even be enhanced due to increased prioritization of emotional well-being as we age

(cf., Carstensen, Isaacowitz, & Charles, 1999). However, this resolution of the paradox of emotional aging creates a new puzzle for those who study suicide in later life: given the maintenance and even increase in emotional well-being in later life, why do older adults, particularly white men, have the highest rates of suicide among any demographic group in the United States (and many other countries in the world) (Heron et al., 2009; World Health Organization, 2002)?

One piece of the puzzle may lie with a more nuanced resolution of the paradox—namely that aging confers both strengths and vulnerabilities for emotional well-being (Charles, 2010; Mather, 2012) and that emotional well-being depends on whether those strengths are capitalized on or vulnerabilities are activated. Charles (2010) proposes that in most situations, older adults' strengths in emotion regulation will serve to preserve or enhance well-being. However, if stressors are chronic, are especially painful (e.g., loss of a sense of connectedness, impairing progressive disease), or otherwise induce high and sustained levels of emotional arousal, the reduced physiological flexibility associated with aging will negate aging-associated strengths. Negating aging-associated strengths may result in diminished emotional well-being, which could, although not explicit in the theory, elevate risk for suicide among older adults.

Charles (2010) and Carstensen and colleagues (1999) both propose that the aging-associated strengths in emotion regulation are created by changes in time perspective—the knowledge that one is nearing the end of life. This knowledge then leads to prioritization of emotional well-being. This formulation runs counter to the perspective from a loss-deficit model of aging (for a review, see Knight, 1996) in which older adults are more likely to focus on death because death is salient for them and preferable to lives characterized by disability, loss, and pain. Research from life-span developmental theorists has documented (Charles & Carstensen, 2010) that the normative trajectory for older adults is to increase their focus on the most meaningful aspects of life—typically relationships—as they grow older, rather than to focus on losses or death. We sought to examine whether the presence of desire for death or the belief that life is not worth living was a normative presentation for older adults confronted with numerous aging-related stressors. To do so, this study examines patterns of endorsements of active suicide ideation (SI), passive SI, and psychological distress (i.e., depressive and anxious symptomatology) in a sample of vulnerable older adults.

Passive SI, also described in the literature as death ideation, may range from the belief that life is not worth living to thoughts of, or desire for, death. It is not a well-characterized or understood construct with regard to suicide risk among older adults. Some data indicate that older adults who present with passive SI are similar in their clinical presentations to older adults who present with active SI (Szanto et al., 1996), suggesting that both active and passive SI

function as indicators of increased suicide risk in later life. Members of our research group conducted an initial exploration of the nature and associations of passive SI using a sample of 85-year-olds from Sweden (Van Orden, Simning, Conwell, Skoog, & Waern, 2013). Specifically, we examined desire for death and the belief that life is not worth living (referred to here as passive SI). We reasoned that if passive SI is “normative” in older adults, as evidenced by it being less tightly linked to depression and suicide risk, we would detect a group of older adults who reported passive SI in the absence of depression (or significant anxiety) and in the absence of significant suicide risk. We did not find such a group. We did, however, find that a group we labeled “Low Distress/No Suicidal Ideation” was characterized by a low, but statistically significant, rate of endorsement of both the belief that life is not worth living (10%) and desire for death (5%) sometime during their lifetime (with no endorsements of lifetime active SI). In designing the current study, we hypothesized that this previous class (i.e., “Low Distress/No Suicidal Ideation”) could actually be a heterogeneous mixture of two classes, the smaller of which might be characterized by high endorsements of aging-related stressors, with associated passive SI in the absence of depressive and anxious psychopathology. We further reasoned that, given that the Swedish sample was a relatively small population-based sample, it may not have provided a valid test of this hypothesis as many participants were not necessarily exposed to chronic stressors.

Thus, in the current study, using a distressed older adult population, we set out to examine—using latent class analysis (LCA)—whether there is a group of older adults who report passive SI in the absence of significant psychological distress (i.e., depression and anxiety) and in the absence of active SI. Specifically, we examined this question in a sample of older adults who were particularly vulnerable to chronic stress due to a high level of social and functional impairment—community-dwelling older adults seeking support from an aging services organization. Past research has demonstrated that older adults accessing aging services have high levels of psychological distress (Richardson, He, Podgorski, Tu, & Conwell, 2010), functional impairment and medical comorbidity (Richardson, Simning, He, & Conwell, 2011b), and both active and passive SI (O'Riley et al., 2013).

Methods

Participants

The data for the present study were part of a larger project examining mental health in older adults accessing aging services. Analyses based on data from this larger study have been previously published (O'Riley et al., 2013; Richardson et al., 2010; Richardson et al., 2011a; Richardson et al., 2011b; Simning et al., 2010); however, the study reported here involves novel research questions and analyses. Study participants consisted of clients entering a Monroe County,

NY aging service organization (Eldersource) who received an initial home assessment from social service care managers between September 2005 and August 2007. In Monroe County, older adults who contact Eldersource receive in-home consultations and assessments if they have physical impairments or transportation difficulties that make it difficult for them to travel to Eldersource for in-person services. For this study, participants were considered eligible if they were English-speaking and 60 years old or older. Eldersource care managers initially identified eligible participants and referred them to study staff. In total, 509 eligible participants were identified and, of these eligible participants, 377 (74.3%) were enrolled in the study. As described elsewhere (Richardson et al., 2011b), study participants did not differ from the larger population of social services clients on age, race, gender, income, or marital status. The most common reasons for refusal to participate in the study were being too busy as well as being in poor cognitive or physical health. The majority of the sample is female (68.4%) and the mean age is 77 years ($SD = 9.13$, range: 60–102 years). Data on race are as follows: 84.4% white, 14.6% black or African American, and 1% Other. With regard to ethnicity, 1.6% of the sample identified as Hispanic or Latino.

Regarding social and functional stressors present in the sample, 71.6% reported a monthly household income of less than \$2,000. The average number of impairments on instrumental activities of daily living (IADLs) was 2.70 ($SD = 2.70$) and on ADLs was 1.62 ($SD = 1.86$). The average number of medical comorbidities was 5.04 ($SD = 2.44$). For social support, approximately half (45.1%) reported that they lived alone. A substantial proportion (32.6%) reported typically not hearing from any friends each month; 23.9% also reported having no one to talk to about important decisions. Finally, a substantial proportion (27.2%) disagreed with the statement, “I get emotional help and support I need from my family.”

Procedures

Care managers briefly introduced the study to their clients during their initial in-home care management assessments. Clients who verbally consented were referred to study personnel who conducted research interviews with written informed consent. The University of Rochester’s Research Subjects Review Board approved the study. Primary care physicians were notified of research diagnoses of depression and/or the presence of SI.

Measures: Latent Class Indicators

Paykel Suicide Items (Paykel, Myers, Lindenthal, & Tanner, 1974). The Paykel scale consists of five items that evaluate the presence of passive and active SI and behaviors over the past year. Endorsement of either of two items (dichotomous yes/no) was taken to indicate passive SI: (1) whether individuals felt life was not worth living or (2) wished they were

dead. Two additional items measured presence of active SI over the past year: (3) had thoughts of taking their own life, or (4) had seriously considered taking their own life. The final item of the Paykel scale asked if the respondent had made a suicide attempt (both past year and lifetime suicide attempts were assessed). These items are used to assess past year worst point suicidality (i.e., most severe form of SI present over the past year) and presence of an attempt across the person’s lifetime. Worst point SI is an important construct for suicide studies because worst point ideation has been shown to be a better predictor of eventual death by suicide than current levels of ideation (Joiner et al., 2003).

Patient Health Questionnaire (PHQ-9) (Spitzer, Kroenke, & Williams, 1999). The PHQ-9 is a nine-item scale that measures depressive symptoms in the 2 weeks prior to assessment and was used as a measure of depressive symptomatology; the final item of this nine-item scale measured current death/SI. Items are scored from 0 (“not at all”) to 3 (“nearly everyday”), with total scores ranging from 0 to 27. A PHQ-9 score of 10 or more represents at least a moderate degree of depressive symptoms severity and has a sensitivity and specificity of 88% for detecting major depression (Kroenke, Spitzer, & Williams, 2001). We examined the PHQ-9 item regarding thoughts of being better off dead and of hurting oneself as a separate latent class indicator of current passive and active SI. Thus, our analyses used summary scores from the first eight items (PHQ-8), with scores ranging from 0 to 24. We also used a structured follow-up protocol to the PHQ-9 when participants endorsed the item assessing SI; specifically, we asked whether the participant had thoughts of hurting him/herself in the previous 2 weeks to categorize the ideation as passive SI or active SI. Given that this follow-up is not a standardized component of the PHQ-9, we did not include variables from this follow-up in the LCA.

Goldberg Anxiety scale (GAS) (Goldberg, Bridges, Duncan-Jones, & Grayson, 1988). The GAS is a nine-item, yes/no instrument that measures anxiety in the 2 weeks prior to assessment. All participants answered the first four questions. If two or more of these were positively endorsed, the remaining five questions were asked with total scores ranging from 0 to 9. The GAS has adequate psychometric properties with a sensitivity of 82% and specificity of 91% for detecting generalized anxiety disorder when applying a threshold score of 6 (Goldberg et al., 1988). For the latent class indicators we grouped participants into three symptom severity categories (0, no anxiety; 1–4, mild anxiety; 5–9, moderate to severe anxiety) given that this item was highly skewed in our sample; the distribution of scores suggested these cut points would best represent the variance in the measure.

Correlates of Class Membership

The total number of IADL impairments was an indicator of functioning, with the need for any type of assistance

indicative of impairment (Lawton & Brody, 1969). Social isolation was assessed with the Lubben Social Network scale (Lubben, 1988), which is a 10-item scale that characterizes an individual's social support network; scores range from 0 to 50 and higher scores correspond to higher levels of social support. Mental disorders were diagnosed using the Structured Clinical Interview for DSM-IV (SCID-IV). Three masters-trained interviewers administered the SCID-IV after completing training to ensure interrater reliability of greater than 0.80 for mental illness diagnosis. Approximately a quarter of the sample (25.2%) met criteria for a current major depressive episode (MDE) and 39.3% met criteria for a past MDE.

Data Analysis

A LCA was conducted using the Mixture Modeling procedure in Mplus version 5.1. Recommended procedures of Muthén and Muthén (2006) were followed for conducting and interpreting data from the LCA. The following variables were entered as indicators of class membership: past year death and SI (binary indicators 1–4) and past year suicide attempts (indicator 5), and lifetime suicide attempts (indicator 6); recent death and suicidal ideation with the PHQ-9 death/SI item (categorical indicator 7, with four categories reflecting frequency); current depression severity with PHQ-8 scores as a continuous indicator (indicator 8); and current anxiety severity with GAS as a categorical indicator (indicator 9; with three categories representing severity). Indicators were not specified to correlate within class. Models were compared with regards to the Bayesian information criterion (BIC), entropy, and interpretability. All available data were used in estimation through direct maximum likelihood using the robust maximum likelihood estimator.

Results

Descriptive statistics appear below in Table 1. Over a quarter of the sample (28.2%) endorsed passive SI in the past year (i.e., Paykel item 1, “felt life was not worth living” or Paykel item 2, “wished you were dead”). Most of these individuals endorsed both passive SI items (18.4%), but a minority endorsed only Paykel item 1 (8.5%) or Paykel item 2 (1.3%). Active SI involving thoughts of “taking your own life” was reported by 9.3% of the sample, whereas active ideation involving “reach[ing] the point where you seriously considered taking your life, or perhaps made plans” was reported by 3.4% of the sample. Previous suicide attempts (lifetime) were reported by 5.6% of the sample.

Determination of Number of Classes

Fit statistics and entropy values for three through six classes were compared (full results available on request). Results

indicated that entropy was highest and BIC was lowest for a four-class model, thus a four-class model was retained.

Interpretation of Classes

The patterns of conditional probabilities for all indicators and classes were examined in order to interpret the classes and assign descriptive labels to the classes. These results are depicted in tabular form in Table 1. Each participant was classified according to his/her most likely latent class membership allowing counts and proportions to be calculated for each latent class. To further characterize the classes, we also compared them on demographic, psychiatric, medical, and social variables that were not included as indicators of class membership (see Table 1). The conditional probabilities can be interpreted in following way: given assignment to the Mild Distress with No Active Ideation Class (for example), the probability of endorsing “thoughts that life is not worth living” is 6% and statistically significant (i.e., greater than zero; denoted by the probability being underlined in the table). Regarding covariates, classes differed significantly on the following variables (denoted by being underlined in the table): sex, age, social integration, number of outpatient visits, receiving current mental health treatment, current and past MDE, prescribed psychotropic medicines, and number of IADL impairments.

A class labeled Mild Distress with No Active Ideation—characterized by mild psychological distress (as measured by depression and anxiety severity) and minimal passive or active SI endorsements—was the largest class 51.5% ($n = 194$) of the sample. Given assignment to this class, the probability of denying any passive and active SI over the past 2 weeks was 100% (i.e., PHQ-9 suicide item), and none of these individuals had active SI over the past year. However, 6% of this class endorsed feeling that life was not worth living in the past year. The average PHQ-8 score indicates mild depressive symptoms (4.27) and approximately 60% of class members endorsed mild anxiety. This class is consistent with the presence of a “mildly-distressed” class. Individuals assigned to this class are characterized by the lowest probabilities of current and past MDEs. Individuals in this class reported an average of 2.3 IADL impairments, and an average level of social integration.

A class labeled High Distress with No Ideation—characterized by minimal passive or active SI endorsements but elevated levels of distress (i.e., mean PHQ-8 score of 10.02 and 61.7% with a score of 6 or higher on the GAS)—was a smaller class, accounting for 28.1% ($n = 106$) of the sample. Its members were characterized by an elevated probability of current and past MDEs, but a high level of social integration and a moderate level of functional impairment (i.e., approximately 3 IADL impairments).

A class labeled Mild Distress with Suicide Ideation (i.e., presence of passive and active SI) accounted for 9.5% ($n = 36$) of the sample. This class was characterized by mild levels of depressive and anxious symptomatology, but

Table 1. Descriptives and Conditional Probabilities for Indicators Given Class Membership

Construct	Indicators	Total sample	Mild distress with no active ideation	High distress with no ideation	Mild distress with suicide ideation	High distress with suicide ideation
		<i>n</i> = 377	194 (51.5%)	106 (28.1%)	36 (9.5%)	41 (10.9%)
Distress	PHQ-8 (mean)	7.55 (5.384)	<u>4.268</u>	<u>10.015</u>	<u>6.608</u>	<u>16.427</u>
Paykel: past year history of SI/SA	Not worth living	100 (26.5)	<u>0.063</u>	0.123	<u>1.000</u>	<u>0.936</u>
	Wish for death	73 (19.4)	0.004	0.025	<u>0.832</u>	<u>0.966</u>
	Taking own life	35 (9.3)	0.000	0.000	<u>0.375</u>	<u>0.527</u>
	Serious/plan	13 (3.4)	0.000	0.000	0.148	<u>0.188</u>
	Lifetime attempt	21 (5.6)	<u>0.046</u>	0.020	0.035	<u>0.219</u>
	Past year attempt	2 (0.5)	0.000	0.000	0.027	0.025
PHQ: current SI	Not at all	323 (85.7)	1.000	<u>0.931</u>	<u>0.540</u>	<u>0.275</u>
	Several days	38 (10.1)	0.000	0.069	<u>0.326</u>	<u>0.450</u>
	More half	5 (1.3)	0.000	0.000	0.084	0.048
	Nearly every	11 (2.9)	0.000	0.000	0.050	<u>0.226</u>
Distress ^a	Anxiety score = 0	87 (23.1)	<u>0.413</u>	0.000	<u>0.241</u>	0.043
	Anxiety score = 1–5	187 (49.6)	<u>0.579</u>	<u>0.383</u>	<u>0.696</u>	<u>0.258</u>
	Anxiety score ≥6	103 (27.3)	0.008	<u>0.617</u>	0.063	<u>0.699</u>
Correlates	<u>Men</u>	0.316	0.366	0.208	0.250	0.415
	<u>Age</u>		77.768	76.057	79.401	74.423
	Lives alone	0.451	0.438	0.425	0.611	0.439
	<u>Lubben social integration</u>	27.109 (9.730)	27.642	28.387	26.038	22.195
	Nursing home days	1.021 (6.570)	0.757	1.400	0.472	1.781
	<u>All outpatient visits</u>	2.713 (2.444)	2.417	3.048	2.417	3.525
	Outpatient psych visits	0.343 (1.244)	0.201	0.509	0.306	0.625
	<u>In mental health tx</u>	0.135 (0.342)	0.098	0.142	0.194	0.244
	<u>Current major depressive episode</u>	0.252	0.041	0.396	0.306	0.829
	<u>Prescribed psychiatric meds</u>	0.343	0.207	0.443	0.389	0.683
	<u>Past major depressive episode</u>	0.400	0.245	0.528	0.457	0.763
	<u>Number of ADL impairments</u>	1.618 (1.857)	1.474	1.755	1.556	1.902
	<u>Number of IADL impairments</u>	2.700 (2.704)	2.294	2.934	2.917	3.805

Notes: ^aGiven the distribution of endorsements on the Goldberg Anxiety scale (i.e., nonnormality) we created a categorical variable with three levels for the LCA to assist with model convergence and interpretability. SI = suicide ideation. SA = suicide attempt. Conditional probabilities that are statistically significant are underlined. Correlates that differed significantly between the classes are underlined. ADL = activities of daily living; IADL = instrumental activities of daily living; LCA = latent class analysis; PHQ = Patient Health Questionnaire.

also elevated probabilities of recent passive/active SI on the PHQ-9 (i.e., within the last 2 weeks) as well as significant probabilities of past year worst point active SI, including thoughts of taking one's life. Examining responses to the study's protocol for risk assessment indicated that 30.6% of class members endorsed active SI on the PHQ-9, whereas the remaining class members who endorsed the final item on the PHQ-9 endorsed passive SI. Members of this class were characterized by approximately 1 fewer IADL impairment compared with the High Distress with Suicide Ideation class that is described below, as well as a higher level of social integration (i.e., approximately 1 additional friend in the social network). These data indicate the presence of older adults with histories of recent death/SI and elevated probabilities of SI in the past year, but with mild levels of depression and anxiety. To examine the clinical relevance of the level of depression reported by these individuals, we conducted post-hoc analyses for members of this class. Specifically, we computed the total score on all

nine items on the PHQ-9, and compared it to empirically derived cutoff scores indicating the presence/absence of clinically significant symptoms of depression (Zimmerman, Posternak, & Chelminski, 2004). The mean PHQ-9 score was 7.14, below the standard clinical cutoff of 10, suggesting that this group of older adults presents with death/SI in the context of mild depressive symptoms. Most class members scored below a 10 on the PHQ-9 (i.e., 67%; the highest score was a 17). This class also had the oldest average age (i.e., mean age of 79.4 years). Finally, we examined the possibility that passive SI was a residual symptom from a recently partially resolved MDE for the individuals in this class. Inconsistent with this possibility are the following pieces of data: only 45.7% of these individuals met criteria for a past MDE compared with 76.3% of the High Distress with Suicide Ideation class; individuals in this class did not attend a greater number of psychiatric or medical appointments in the 3 months prior to the study (mean difference of 1.11 fewer visits, $p > .05$); and individuals were less

likely to be prescribed psychiatric medications than those in the High Distress with Suicide Ideation class (38.9% vs. 68.3%, $p < .05$).

Finally, the smallest class was labeled High Distress with Suicide Ideation (i.e., presence of passive and active SI) and accounted for 10.9% ($n = 41$) of the sample. Given assignment to this class, 72.5% reported passive/active SI in the previous 2 weeks on the PHQ-9. In this class, probabilities of prior serious ideation/planning as well as past attempts were high, the mean depression score was high, and most members reported the highest level of anxiety. Therefore, this class was labeled High Distress with Suicide Ideation to reflect that these individuals had histories of active planning and/or suicidal behaviors. Members of this class characteristically had the highest levels of functional impairment and social isolation, as well as the highest probability of current and past MDEs. Examining responses to the study's protocol for risk assessment indicated that 58.5% of class members endorsed active SI on the PHQ-9, whereas the remaining class members who endorsed the final item on the PHQ-9 endorsed passive SI.

Discussion

We used LCA to examine the validity of what we propose to be an ageist assumption, that it is normative—and thus not associated with elevated suicide risk—for older adults to experience desire for death or the belief that life is not worth living (passive SI) when faced with chronic stressors. Our study measurements used in the LCA included both current (i.e., past 2 weeks) and “worst point” (i.e., past year) suicidal thinking. This is an important aspect of the study because suicide risk (and the frequency and severity of suicidal thoughts) is dynamic and fluctuates with time and social context. The item from the PHQ-9 on suicidal thinking in the past 2 weeks measures current SI. The items from the Paykel scale on suicidal thinking in the past year measures a form of “worst point” SI. Both constructs are highly relevant for suicide risk assessment: current ideation captures the severity of acute risk, whereas worst point captures more chronic and unchanging risk. Both current and “worst point” ideation have been found to be associated with suicide deaths. It is a strength that our study measured both constructs.

Our results are largely inconsistent with the hypothesis that passive SI reflects normative aging processes (e.g., coming to terms with death) among older adults seeking social services, for two reasons. First, a class with significant distress—as evidenced by average PHQ-8 and GAS scores above the clinical thresholds suggestive of Major Depressive Disorder and Generalized Anxiety Disorder—did not have statistically significantly elevated levels of past year or recent passive or active SI. Thus, a significant portion of highly distressed and functionally impaired older adults were not characterized by desire for death. Second, the groups characterized by high endorsements of passive SI

(i.e., the two rightmost classes in Table 1) were also characterized by high endorsements of active SI, indicating that a desire for death and belief that life is not worth living were coupled with an indicator of suicide risk (i.e., worst point severity of SI). However, there were 12 individuals in the Mildly Distressed with No Active Ideation class (marked by mild depression and anxiety and no endorsements of active SI) who endorsed thoughts that life was not worth living in the past year, but denied any desire for death or active SI in the past year. It is possible that these individuals (who make up 3% of our sample, 12% of those with thoughts that life is not worth living) experienced passive SI (in the form of thoughts that life is not worth living) that is not associated with suicide risk. It may be that thoughts that life is not worth living and desire for death are not equivalently associated with suicide risk and should not be grouped together as passive SI. Thoughts that life is not worth living, may, in some older individuals, indicate dissatisfaction with life that is not associated with elevated suicide risk, as our mildly distressed class was characterized by significant endorsement of thoughts that life was not worth living in the absence of other indicators of suicide risk.

In sum, our results indicate that most older adults presenting to aging services with endorsements of the belief that life is not worth living and/or desire for death (i.e., passive SI) likely also endorse active SI. The small proportion who endorse passive SI in the absence of active SI are likely to be characterized by the thought that life is not worth living in the context of mild depressive symptoms. Thus, while our findings do not indicate that all of these individuals endorsing passive SI are at high risk for suicide deaths, it does imply, despite mild depressive and anxiety symptoms scores, that these older adults are experiencing dissatisfaction with life and are therefore vulnerable to development of suicidal states, which could be amenable to intervention. Our results challenge an assumption we believe is founded on ageist beliefs—that it makes sense (or is normative) for older adults to believe life is not worth living or to want to die when faced with aging-associated stressors (for a review of the loss-deficit model of aging, see Knight, 1996).

Our previously reported LCA, conducted with a cohort of 85-year-old adults from Sweden (Van Orden et al., 2013), revealed five distinct classes of older adults. All of the classes found in the current study were also present in the Swedish community sample (below we discuss the one discrepant class): specifically, the “Mild Distress with No Active Ideation,” “High Distress with No Ideation,” “Mild Distress with Suicide Ideation,” and “High Distress with Suicide Ideation”. Two congruencies are notable. First, the Mild Distress with No Active Ideation class did include a significant proportion of individuals with thoughts that life was not worth living (past year for the current sample, 6%; and lifetime for the Swedish sample, 10%). Thus, larger, representative samples are needed to: (1) better estimate the prevalence of passive SI without active SI; (2) estimate the prevalence and prognostic significance of thoughts that life

is not worth living in the absence of desire for death; and (3) to more precisely determine the levels of depressive and anxious symptomatology that are associated with thoughts that life is not worth living and desire for death. Second, it is notable that the Mild Distress with Suicide Ideation class was found in both samples—a community-based sample in Sweden and a sample seeking aging services in the United States. These individuals reported recent passive or active SI with more remote histories of active SI in the absence of high levels of psychological distress. The final group of older adults found in the Swedish sample was not detected in the current sample. This group of older adults reported high psychological distress (in the form of depressive and anxious symptoms), current “fleeting” passive/active SI, lifetime histories of thoughts that life was not worth living and desire for death, but without histories of active SI. In addition to possible cultural differences between Swedes in the 1990s and a recent sample of U.S. older adults, methodological differences between the studies may account for the differences in class structure that we found. Specifically, the Swedish sample was somewhat larger and older (i.e., all aged 85 years) than our sample. The Swedish elders were sampled from the community whereas ours were care management clients of a community-based aging services agency; and the measures of current/recent SI differed (the time frame for past ideation was lifetime in the Swedish study whereas it was past year for the current sample). Examining lifetime SI may have allowed for a more sensitive analysis in the Swedish sample and enabled the detection of an additional class of older adults. However, despite methodological and cultural differences, the conclusions that can be drawn from these two data sets regarding passive SI are strikingly similar: namely, that desire for death in older adults appears to be endorsed most often in the presence of significant risk factors for suicide—either active SI or clinically significant depression.

The results of our study call into question the hypothesis that normative developmental changes associated with aging (e.g., changes in time perspective) in and of themselves are associated with desire for death in nonsuicidal older adults experiencing stressors. Instead, our results raise the question of whether additional vulnerabilities (e.g., problems with executive control or hypothalamic pituitary axis regulation associated with emotion dysregulation) might explain why a subpopulation of older adults does not adapt to the stressors common in late life (Charles, 2010; Mather, 2012) and in response, develops the desire for death. Additional research on the potential prognostic and clinical differences between thoughts that life is not worth living and desire for death is needed. Clinically, these results suggest that older adults who express the desire for death are likely experiencing significant distress that requires treatment, because desire for death is likely not a normal (or benign) reaction to the stressors of growing older. Thoughts that life is not worth living, if not coupled with moderate to severe depression, might, however, represent

a less pernicious indicator of dissatisfaction with life. This possibility dovetails with a recent qualitative study examining the experience of subsyndromal depression in later life (Ludvigsson, Milberg, Marcusson, & Wressle, 2014), which suggested that in some older adults, the state of subsyndromal depression “could represent aspects of normal aging, rather than a pathology that demands treatment” (p. 7). It may be, that in some older adults, dissatisfaction with life is an aspect of subsyndromal depression that may not elevate suicide risk or require intervention.

Limiting our capability to distinguish between those reporting passive SI from those reporting active SI (if such a distinction exists) is the nature of the SI item on the PHQ-9. This item asks about the presence of passive *or* active suicidal ideation in the past 2 weeks without prompts to clarify which form of ideation was present. Thus, regarding current/recent presentations, we were unable to distinguish between current passive and active SI. We did, however, utilize our study’s risk assessment protocol to ascertain the proportion of class members who endorsed active versus passive ideation on the PHQ-9; given that this was not a formal component of the PHQ-9, we did not include this distinction as an additional indicator in the LCA. Our sample was limited by the fact that very few participants could be classified as “non-distressed” thus potentially limiting our capability to detect a nondistressed class characterized by passive ideation. Instead, the norm in our sample was elevated depressive and anxious symptomatology, thus we would be unable to detect the presence of a group of non-distressed older adults with passive SI if one exists. Our data set was also limited by the lack of a follow-up period, thus we were unable to examine the prognostic value of class identification. Another limitation is that the data were collected in-person and research participants may have been hesitant to endorse thoughts of death or suicide to research personnel. Finally, as with any study examining death/SI, the degree to which these constructs are ultimately associated with death by suicide is not known.

Despite these limitations, our results build upon previous studies that examine the nature of thoughts of death in older adults and suggest that desire for death or the belief that life is not worth living in this population are a signal for dissatisfaction with life that do not reflect normative adjustments to the aging process. Longitudinal research following older adults who report desire for death or the belief that life is not worth living is warranted to determine if they are at increased risk for suicide attempts or deaths. In particular, additional examination of older adults who report passive SI in the absence of highly elevated depression scores is needed to determine if this group of older adults might benefit from intervention. Finally, further research is needed to determine what kinds of thoughts about death—if any—can be considered normative (or benign) and not indicators of suicide risk in later life. For example, thinking about one’s death in order to be adequately prepared may serve a psychologically distinct

function from thinking that life is not worth living or wishing for one's death. The former may represent active efforts to cope with this stage of life and thereby could reflect the presence of efforts at "preparation for future care" needs (Sörensen, Mak, Chapman, Duberstein, & Lyness, 2012) while the latter may represent dissatisfaction with life and difficulties with emotion regulation.

Finally, our results indicating that desire for death or the belief that life is not worth living are likely indicators of dissatisfaction with life, point to a pertinent clinical implication: it is important for clinicians working with older adults dealing with end-stage illness to not assume that it is normative to desire death, and thus withhold treatments for depression or suicide risk. Depression and other risk factors for suicide, such as feeling like a burden, can be effectively treated in later life, with approaches such as problem-solving therapy (Arean, Hegel, Vannoy, Fan, & Unutzer, 2008) and reminiscence therapy (Scogin, Welsh, Hanson, Stump, & Coates, 2005). Psychological treatments have also been developed to specifically address end of life issues, including dignity psychotherapy (Chochinov, 2002), which specifically targets issues common to end-stage illness such as feeling like a burden and loss of independence, by helping foster meaning in life through the description of a personal legacy.

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References

- Arean, P., Hegel, M., Vannoy, S., Fan, M. Y., & Unutzer, J. (2008). Effectiveness of problem-solving therapy for older, primary care patients with depression: Results from the IMPACT project. *The Gerontologist*, *48*, 311–323. doi:10.1093/geront/48.3.311
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously. A theory of socioemotional selectivity. *The American Psychologist*, *54*, 165–181. doi:10.1037/0003-066X.54.3.165
- Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., ... Nesselroade, J. R. (2011). Emotional experience improves with age: Evidence based on over 10 years of experience sampling. *Psychology and Aging*, *26*, 21–33. doi:10.1037/a0021285
- Charles, S. T. (2010). Strength and vulnerability integration: A model of emotional well-being across adulthood. *Psychological Bulletin*, *136*, 1068–1091. doi:10.1037/a0021232
- Charles, S. T., & Carstensen, L. L. (2010). Social and emotional aging. *Annual Review of Psychology*, *61*, 383–409. doi:10.1146/annurev.psych.093008.100448
- Chochinov, H. M. (2002). Dignity-conserving care—a new model for palliative care: Helping the patient feel valued. *JAMA: The Journal of the American Medical Association*, *287*, 2253–2260. doi:10.1001/jama.287.17.2253
- Fiske, A., Wetherell, J. L., & Gatz, M. (2009). Depression in older adults. *Annual Review of Clinical Psychology*, *5*, 363–389. doi:10.1146/annurev.clinpsy.032408.153621
- Goldberg, D., Bridges, K., Duncan-Jones, P., & Grayson, D. (1988). Detecting anxiety and depression in general medical settings. *BMJ (Clinical research ed.)*, *297*, 897–899. doi:10.1136/bmj.297.6653.897
- Heron, M., Hoyert, D. L., Murphy, S. L., Xu, J., Kochanek, K. D., & Tejada-Vera, B. (2009). Deaths: Final data for 2006. *National Vital Statistics Reports: From the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System*, *57*, 1–134.
- Joiner, T. E. Jr, Steer, R. A., Brown, G., Beck, A. T., Pettit, J. W., & Rudd, M. D. (2003). Worst-point suicidal plans: A dimension of suicidality predictive of past suicide attempts and eventual death by suicide. *Behaviour Research and Therapy*, *41*, 1469–1480. doi:S0005796703000706 [pii]
- Knight, B. G. (1996). *Psychotherapy with older adults* (2nd ed., p. 209).
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*, 606–613. doi:jgi01114 [pii]
- Lawton, M. P., & Brody, E. M. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. *The Gerontologist*, *9*, 179–186. doi:10.1093/geront/9.3_Part_1.179
- Lubben, J. E. (1988). Assessing social networks among elderly populations. *Family & Community Health*, *11*, 42–52. doi:10.1097/00003727-198811000-00008
- Ludvigsson, M., Milberg, A., Marcusson, J., & Wressle, E. (2014). Normal aging or depression? A qualitative study on the differences between subsyndromal depression and depression in very old people. *Gerontologist*. Advance online publication. doi:10.1093/geront/gnt162
- Mather, M. (2012). The emotion paradox in the aging brain. *Annals of the New York Academy of Sciences*, *1251*, 33–49. doi:10.1111/j.1749-6632.2012.06471.x
- Muthén, L. K., & Muthén, B. O. (2006). Mplus Short Courses Topic 5: Categorical latent variable modeling with cross-sectional data. Paper presented at the Workshop on Statistical Analysis with Latent Variables Using MPlus on October 19, 2006. Baltimore, MD: Johns Hopkins University.
- O'Riley, A. A., Van Orden, K. A., Hua, H., Richardson, T., Podgorski, C., & Conwell, Y. (2013). Suicide and death ideation in older adults accessing aging services. *American Journal of Geriatric Psychiatry*. doi:10.1016/j.jagp.2012.12.004
- Paykel, E. S., Myers, J. K., Lindenthal, J. J., & Tanner, J. (1974). Suicidal feelings in the general population: A prevalence study. *The British Journal of Psychiatry: The Journal of Mental Science*, *124*, 460–469. doi:10.1192/bjp.124.5.460
- Richardson, T. M., Friedman, B., Podgorski, C., Knox, K., Fisher, S., He, H., & Conwell, Y. (2011a). Depression and its correlates among older adults accessing aging services. *American*

- Journal of Geriatric Psychiatry*, 20, 346–354. doi:10.1097/JGP.0b013e3182107e50
- Richardson, T. M., He, H., Podgorski, C., Tu, X., & Conwell, Y. (2010). Screening depression aging services clients. *The American Journal of Geriatric Psychiatry: Official Journal of the American Association for Geriatric Psychiatry*, 18, 1116–1123. doi:10.1097/JGP.0b013e3181dd1c26
- Richardson, T. M., Simning, A., He, H., & Conwell, Y. (2011b). Anxiety and its correlates among older adults accessing aging services. *International Journal of Geriatric Psychiatry*, 26, 31–38. doi:10.1002/gps.2474
- Scogin, F., Welsh, D., Hanson, A., Stump, J., & Coates, A. (2005). Evidence-based psychotherapies for depression in older adults. *Clinical Psychology: Science and Practice*, 12, 222–237. doi:10.1093/Clipsy/Bpi033
- Simning, A., Richardson, T. M., Friedman, B., Boyle, L. L., Podgorski, C., & Conwell, Y. (2010). Mental distress and service utilization among help-seeking, community-dwelling older adults. *International Psychogeriatrics/IPA*, 22, 739–749. doi:S104161021000058X [pii]. 10.1017/S104161021000058X
- Sörensen, S., Mak, W., Chapman, B., Duberstein, P. R., & Lyness, J. M. (2012). The relationship of preparation for future care to depression and anxiety in older primary care patients at 2-year follow-up. *The American Journal of Geriatric Psychiatry: Official Journal of the American Association for Geriatric Psychiatry*, 20, 887–894. doi:10.1097/JGP.0b013e31822ccd8c
- Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. Primary Care Evaluation of Mental Disorders. Patient Health Questionnaire. *JAMA: the Journal of the American Medical Association*, 282, 1737–1744. doi:10.1001/jama.282.18.1737
- Szanto, K., Reynolds, C. F., III, Frank, E., Stack, J., Fasiczka, A. L., Miller, M. ... Kupfer, D. J. (1996). Suicide in elderly depressed patients: Is active vs passive suicidal ideation a clinically valid distinction? *The American Journal of Geriatric Psychiatry*, 4, 197–207. doi:10.1097/00019442-199622430-00003
- Van Orden, K. A., Simning, A., Conwell, Y., Skoog, I., & Waern, M. (2013). Characteristics and comorbid symptoms of older adults reporting death ideation. *The American Journal of Geriatric Psychiatry: Official Journal of the American Association for Geriatric Psychiatry*, 21, 803–810. doi:10.1016/j.jagp.2013.01.015. 10.1097/JGP.0b013e31825c09fb
- World Health Organization. (2002). Distribution of suicides rates (per 100,000), by gender and age, 2000 Retrieved April 19, 2010, from http://www.who.int/mental_health/prevention/suicide/suicide_rates_chart/en/index.html
- Zimmerman, M., Posternak, M. A., & Chelminski, I. (2004). Defining remission on the Montgomery-Asberg depression rating scale. *The Journal of Clinical Psychiatry*, 65, 163–168. doi:10.4088/JCP.v65n0204