The connection between subjective nearness-to-death and depressive symptoms: The mediating role of meaning in life

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ABSTRACT

Depression is characterized by a wide range of emotional, cognitive, and physical symptoms. Two prominent features of depressive symptoms are a sense that life has no meaning on the one hand, and that life is not worth living on the other hand. In recent years, the subjective perception of how close one feels to his/her death has gained importance as a significant factor associated with various aspects of physical and psychological well-being. Thus, the current study examined the connection between subjective nearness-to-death, meaning in life, and depressive symptoms, and assessed whether meaning in life mediates the connection between subjective nearness-to-death and depressive symptoms. Data was collected from 268 participants between the ages of 28 and 74 (mean age = 46.75), who completed measures of subjective nearness-to-death, meaning in life, and depressive symptoms. Results yielded a significant positive connection between subjective nearness-to-death and depressive symptoms, as well as a negative connection between meaning in life and depressive symptoms. Moreover, meaning in life was found to mediate the connection between subjective nearness-to-death and depressive symptoms. Findings are discussed in light of the Terror Management Theory, and potential clinical implications are suggested.

1. Introduction

Depression is considered to be one of the most prevalent and debilitating mental health issues, and affects people throughout the course of life (DSM-5, American Psychiatric Association, 2013). In fact, the World Health Organization assumes that major depression will become the second highest cause of incapacity by 2020 in many cultures (Murray and Lopez, 1996). Whereas the symptoms of depression include various emotional, cognitive, and physiological components, it seems that a prominent feature of depression is a prevailing sense of worthlessness, accompanied by reduced interest in activities which had been pleasurable, loss of hope for the future, and at times, recurrent thoughts about the end of life (DSM-5, American Psychiatric Association, 2013).

A significant amount of research has examined the manner by which depression and depressive symptoms are affected by the individual’s age and physical health, as well as by other objective measures. For example, findings demonstrate that depressive symptoms, while prevalent throughout the adult life, may be more pronounced as the individual grows older (Blazer, 2003; Crystal et al., 2013), and that certain features of depression are connected with the individual’s decline prior to death (Singer et al., 2003; Bäckman and MacDonald, 2006; Segel-Karpas et al., 2017). In recent years, however, there is a growing interest in the importance of subjective perceptions of age, health, and subjective life expectancy for one’s physical and emotional condition (Staudinger, 2015). As the experience of depressive symptoms often includes disruptions in feelings, perceptions, and beliefs, the manner by which these components resonate within the individual’s inner world is important for reducing the cognitive and emotional symptoms reflected in negative views of the self and the future (Beck et al., 1979). Along this line, the notion of subjective nearness-to-death (Rotter-Grühn et al., 2010), or how close individuals perceive themselves to be to their own death, has been linked with various declines in physical health (Griffin et al., 2013), as well as with psychological distress (Shirra et al., 2014; Bodner and Bergman, 2016).

It seems that a main underlying force which guides one’s capacity to deal with the notion that death is inevitable is the individual’s ability to construct a sense of meaning to his/her transient existence. Accordingly, it is not surprising that meaning in life has been associated with reduced death anxiety (Routledge and Juhl, 2010), as well as with...
increased emotional well-being (Shmotkin and Shira, 2012; Steger, 2012). However, it is not clear whether the individual is able to rely on his/her resources of meaning in life in order to ward off the painful perceptions of death proximity, and whether meaning in life assists in alleviating depressive symptoms in connection with feeling close to death. Thus, the current research aims to examine the mediating role of meaning in life in the connection between subjective nearness-to-death and depressive symptoms.

1.1. Subjective nearness-to-death

The issue of subjective time perceptions has been the subject of various conceptualizations, many of which focus on how the individual perceives his/her past, present, and future (see review by Gabrián et al., 2017). However, the idea that death is looming near may cast a shadow on the individual’s ability to keep a clear perspective on life. In this regard, the subjective proximity of death has been examined and conceptualized by terms such as subjective life expectancy (Griffin et al., 2013; Bodner and Bergman, 2016), or distance to death (Shirira et al., 2014; Palgi, 2016). However, such conceptualizations are usually focused on older populations, and deal with estimating the probability of reaching a given target age. In contrast, the notion of subjective nearness-to-death seems more applicable for examining this idea across the adult life, and in fact, this measure has been used with wider age-ranges across adulthood (Hoffman et al., 2016; Shirira et al., 2014; Bergman et al., 2017).

In line with Griffin et al.’s mental model of life expectancy, the individual’s physical and psychological well-being are important factors which account for one’s perception of the remaining time he/she has to live (Griffin et al., 2013). Accordingly, subjective nearness-to-death was linked with various forms of mental distress across the life cycle, including post-traumatic stress disorder (Hoffman et al., 2016) depressive symptoms (Bodner and Bergman, 2016), and aging- and death-related anxieties (Bergman et al., 2017).

The idea that the individual feels close to his/her death may also trigger specific fears and concerns regarding the future. As previously noted, concerns regarding one’s death have been linked with the importance of the understanding that life bears meaning (Routledge and Jubil, 2010). Moreover, this connection is feasible when one considers the horizon hypothesis (Mirowsky, 1997), which stipulates that subjective life expectancy is positively connected with a sense of personal control, which, in turn, has been associated with meaning in life (Krause and Shaw, 2003). In this regard, death anxiety was found to be negatively associated with the sense that life has purpose (Rappaport et al., 1993). However, while studies have examined how activating death-related cognitions in experimental settings affect meaning in life (Vess et al., 2017), to the best of our knowledge, the connection between subjective perceptions of feeling close to death and meaning in life have not been examined. As will be shown, there is a strong theoretical link between perceptions of death and imbuing meaning into one’s life, and accordingly, we will now review the theoretical and empirical relevance of Terror Management Theory (TMT; Greenberg et al., 1986) for the importance of meaning in life in the connection between subjective nearness-to-death and psychopathology, while focusing on depressive symptoms.

1.2. Meaning in life

The theoretical importance of the sense that life has meaning in the context of death-related thoughts and cognitions can be observed through TMT (Greenberg et al., 1986). According to this theory, human awareness regarding the transience of life and the fact that death is inevitable (and often unexpected) creates intolerable anxiety, which would render the individual unable to engage in various aspects of everyday functioning. Accordingly, in order to ward off this knowledge, humans have created several defense mechanisms (Pyszczynski et al., 1999; Greenberg and Arndt, 2011). One defense is based on the premonition that each culture formulates certain principles through which it views the world, and by validating this view, the individual feels that the universe has a clear direction, order, and meaning. Thus, culture provides a tool through which individuals create meaning in life, which in turn, enables them to distance themselves from the danger of meaninglessness in the face of death. By complying with cultural standards, individuals are able to enhance their self-esteem (an additional defense mechanism according to TMT), thereby increasing the feeling that despite the transience of life, existence still bears meaning.

Meaning in life has been associated with various measures of physiological and psychological well-being (see review by Steger, 2012), and its utility has been demonstrated throughout the adult life cycle (Steger et al., 2009). For example, meaning in life was connected with reduced negative emotions (Keyes et al., 2002), and was shown to buffer the effects of stress (Mascaro and Rosen, 2006). In this regard, existential meaning was linked with less depressive symptoms among young adults (Mascaro and Rosen, 2005), and a cross-lagged study hinted toward a causal connection between the two variables (Mascaro and Rosen, 2006). Moreover, meaning in life may serve as a protective factor against suicidal ideation among non-clinical populations with elevated post-traumatic stress disorder symptoms and depressive symptoms (Sinclair et al., 2016). In the later stages of life, a reduced sense of meaning in life was associated with increased physical and cognitive impairments (Pinquart, 2002; Boyle et al., 2010), as well as with increased mortality (Krause, 2009). Similar to younger age-groups, low meaning in life was related to anxiety and depressive symptoms (Reker, 1997; Pinquart, 2002; Haugan, 2014), as well as to suicidal cognitions (Heisel and Flett, 2014).

In light of these theoretical and empirical links between meaning in life and depressive symptoms, together with the clear connection between the individual’s subjective perception of his/her remaining time to live and emotional well-being, the current study focused on two main objectives. First, we sought to establish the connection between subjective nearness-to-death and depressive symptoms across the adult life cycle. Second, taking into account the buffering qualities of the sense that life has meaning, we examined whether the connection between subjective nearness-to-death and depressive symptoms is mediated by meaning in life. Accordingly, the following hypotheses were formulated: (1) high levels of subjective nearness-to-death (i.e., feeling closer to death) will be associated with increased levels of depressive symptoms; (2) a strong sense of meaning in life will be connected with decreased levels of depressive symptoms; (3) meaning in life will mediate the connection between subjective nearness-to-death and depressive symptoms.

2. Method

2.1. Participants and procedure

Data was obtained from 268 participants, of which 71 (26.5%) were male, and the age range of the cohort was between 28 and 74 (M = 46.75, SD = 10.07). Information was collected using an online survey, which was advertised by research assistants through various means such as snowball sampling and social media (mostly Facebook). The link provided led to a designated website which contained the study questionnaires, and no personal information was required or requested. All subjects were informed regarding the study, and provided their consent to participate. The study was approved by the institutional review board of the first author’s university.

2.2. Measures

2.2.1. Subjective nearness-to-death

Subjective nearness-to-death was assessed by a single item, which was based on and adapted from the item suggested by Rotter-Grühn
et al. (2010). Participants are required to rate their agreement with the statement “I have a feeling that my life is approaching its end” on a scale ranging from 1 ("not at all") to 7 ("very much"). This item has been used in previous research to assess subjective perceptions of remaining time (e.g., Bergman et al., 2017; Hoffman et al., 2016), and is considered to be an adequate measure of this phenomenon.

2.2.2. Depressive symptoms

Depressive symptoms were examined using a short version of the Center for Epidemiologic Studies Depression Scale (CES-D; Andersen et al., 1994). The scale contains ten statements (e.g., "I was bothered by things that usually don't bother me"; "I felt lonely"), and the individual is required to state whether he/she had experienced such emotions in the past month on a scale ranging from 1 ("rarely or none of the time") to 4 ("most or all of the time"). This scale has been used across age ranges (Lewinsohn et al., 1997), and Cronbach's alpha in the current study was .81.

2.2.3. Meaning in life

Meaning in life was assessed by three items taken from the Meaning in Life Questionnaire (MLQ; Steger et al., 2006). Participants rated the extent to which each statement applies to them on a scale ranging from 1 ("totally not true") to 7 ("totally true"). The items used were "I understand my life's meaning"; "My life has a clear sense of purpose"; "I have a good sense of what makes my life meaningful". The scale has been demonstrated to have strong internal consistency across the life span (Steger et al., 2006, 2009), and in the current study, Cronbach's alpha was .89 (see Table 1 for means, SDs, and correlations between study variables).

2.3. Statistical analysis

The first two hypotheses were examined using a hierarchical regression, in which depressive symptoms was the predicted variable. The first step included gender, age, and self-rated health, in order to prevent possible confounding effects, as these variables were found to be connected with both subjective nearness-to-death and depressive symptoms (Bergman et al., 2017; Bodner and Bergman, 2016). The second step included subjective nearness-to-death and meaning in life (see Table 2 for regression coefficients). The third hypothesis, which focused on the mediation effect, was examined using the PROCESS macro for SPSS (Hayes, 2013). Potential multicollinearity between the predicting variables was rejected, as the values of both tolerance and variance inflation factor (VIF) ranged between 0.86 and 0.99, and between 1.01 and 1.16, respectively, which is in line with literature requirements (O'Brien, 2007).

3. Results

In line with the first hypothesis, the regression analysis yielded a significant positive connection between subjective nearness-to-death and depressive symptoms (B = 0.08, β = 0.22, t = 3.83, p < 0.001). The second hypothesis was also confirmed, as high levels of meaning in life were significantly associated with reduced depressive symptoms (B = −0.10, β = −0.26, t = −4.60, p < 0.001). With regard to the third hypothesis, a mediation analysis using PROCESS (Hayes, 2013) revealed that the indirect effect of subjective nearness-to-death on depressive symptoms via meaning in life was 0.02, bootstrapped 95% CIs [0.01, 0.03], indicating a relatively small, albeit significant mediation (p < 0.05). The ratio of indirect to total effect was 0.13 (see Fig. 1 for the mediation model). Thus, the third hypothesis was confirmed, as a significant mediation effect was discovered. The mediation model remained significant when covariates were excluded from the analysis.

4. Discussion

The current study aimed at examining the connection between the subjective notion that life is approaching its end, the sense that life has meaning, and depressive symptoms. More specifically, we postulated that both subjective nearness-to-death and meaning in life would be connected to depressive symptoms, and that meaning in life would mediate the connection between subjective nearness-to-death and depressive symptoms. In line with the first hypothesis, subjective nearness-to-death was found to be a significant predictor of depressive symptoms, as higher levels of subjective nearness-to-death were associated with increased depressive symptoms. Moreover, in accordance with the second hypothesis, increased meaning in life was indicative of reduced depressive symptoms. Finally, our third hypothesis concerning the mediation model was confirmed, as meaning in life mediated the link between subjective nearness-to-death and depressive symptoms.

The connection between the notion of human mortality and depressive symptoms is evident in the clinical features of this psychiatric diagnosis. In fact, one of the main features of depression is a sense that life is not worth living, which may be accompanied by recurrent thoughts of death, with or without suicidality (DSM-5, American Psychiatric Association, 2013). In this regard, a recent study demonstrated that feeling far from one's death was associated with an increased desire to live, which may indicate a feeling that life is deemed as meaningful and worth living (Palgi, 2017). A possible theoretical framework for the effects of subjective nearness-to-death is TMT (Greenberg et al., 1986), which postulates that many psychological conditions result from an inadequate ability to utilize the buffering mechanisms which ward off death-related thoughts (Simon et al., 1996). In this regard, Simon and her colleagues found that individuals who were experiencing mild depressive symptoms employed increased defense of their worldview following death awareness in comparison to a control group. Thus, it is not surprising to find empirical evidence for a link between the subjective feeling that death is near and depressive symptoms. Indeed, previous studies have linked subjective nearness-to-death with psychological distress (Palgi et al., 2014; Shirira et al., 2015). Our findings, therefore, reaffirm the relevance of subjective perceptions of time remaining until death with regard to well-being, while generalizing this connection to the broad adult life span.

Table 1

Means, standard deviations, and correlation matrix of study variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M / %</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender (male)</td>
<td>26.5%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Age</td>
<td>46.75</td>
<td>10.07</td>
<td>-0.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Self-rated health</td>
<td>4.17</td>
<td>0.72</td>
<td>0.05</td>
<td>-0.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Subjective nearness-to-death</td>
<td>1.75</td>
<td>1.19</td>
<td>0.12</td>
<td>0.06</td>
<td>-0.34***</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Meaning in life</td>
<td>5.82</td>
<td>1.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.17*</td>
<td>-0.32***</td>
<td>-0.33***</td>
</tr>
<tr>
<td>6. Depressive symptoms</td>
<td>1.71</td>
<td>0.41</td>
<td>0.11</td>
<td>0.04</td>
<td>-0.32***</td>
<td>0.31***</td>
<td>-</td>
</tr>
</tbody>
</table>

a. 0 = male; 1 = female.

* = p < 0.05.

** = p < 0.01.

*** = p < 0.001.
As previously stated, one of the theoretical postulations of TMT is that depressive symptoms are, aside from their well-established biological and cognitive bases, the consequence of psychological difficulties in dealing with existential threats (Arndt et al., 2005). Depressive symptoms may appear when important meaning-providing resources are lost (Pyszczynski and Greenberg, 1987), and are linked with the inability of individuals to hold the belief that their lives are meaningful (Simon et al., 1996). Thus, the ability to activate the relevant defenses aimed at warding off the salience of mortality may enable individuals to uphold meaning in life, and this, in turn, may contribute to a decrease in psychological distress. In this regard, it was found that mildly depressed patients who were able to activate their TMT defenses following distress showed a decrease in depressive symptoms, which are also linked with subjective nearness-to-death, and this issue should be examined in the future.

However, despite the importance of providing meaning to one’s life when death is salient in order to enhance well-being (Tomer, 2014), the salience of mortality may enable individuals to detect susceptibility for depressive symptoms. Additionally, in light of the significant mediating role of meaning in life, it may be beneficial to focus on individuals who feel close to their death and help them to consolidate and enhance their ability to feel that life has a purpose. In line with TMT, this may be achieved by strengthening personal relationships and emotional ties with close ones, or by assisting individuals to live up to their cultural and personal norms and values. However, further research is needed in order to examine the feasibility of these suggestions for relevant populations.

Several limitations of the current study should be mentioned. First, it is important to note that data was collected using an online survey, and this method of data gathering may be susceptible to issues of response biases. Moreover, the cross-sectional design of the current research does not allow us to infer causality. Additionally, the cohort was predominantly female, and even though gender did not yield a significant effect, this issue should be taken into consideration. It should also be noted that the study assessed the general population, and results may differ when clinical populations are concerned. Therefore, it is important to examine the model presented here among individuals with a clear diagnosis of a depressive disorder, or alternatively, to examine additional markers of well-being and psychopathology. Additionally, even though the CES-D is a valid and reliable in younger age-groups (Radloff, 1991), future studies may choose a different scale for evaluating depressive symptoms. Moreover, we used a short version of the CES-D which may be susceptible to issues of reliability and validity when clinical populations are concerned. Therefore, future studies should take into account additional conceptualizations of this concept. Finally, the current study did not examine the interactive effects of death anxiety and subjective nearness-to-death, and this issue should be examined in the future.

The connections between thoughts about death, the feeling that life has no meaning, and experiencing reduced emotional well-being are almost intuitive. However, the current study emphasizes the complex connections between the three, and demonstrates how meaning in life plays a role in the connection between the negative potential effects of death-related concerns and individuals’ psychological health. The results provide additional insights to the limited number of studies which examined the role of personal existential perceptions for the connection between psychological distress and the individual feeling that the time left to live is becoming shorter and shorter.

Acknowledgement

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