

The Role of Ego Integrity and Despair in Older Adults' Well-being during the Covid-19 Crisis: The Mediating Role of Need-based Experiences

Jolene van der Kaap-Deeder (✉ Jolene.van.der.kaap-deeder@ntnu.no)

Norwegian University of Science and Technology (NTNU) <https://orcid.org/0000-0003-1035-3195>

Branko Vermote

Ghent University

Joachim Waterschoot

Ghent University

Bart Soenens

Ghent University

Sofie Morbee

Ghent University

Maarten Vansteenkiste

Ghent University

Research Article

Keywords: older adults, ego integrity, despair, basic psychological needs, Self-Determination Theory, Covid-19

DOI: <https://doi.org/10.21203/rs.3.rs-83538/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

Abstract

The Covid-19 pandemic has affected people across the world, with older adults being particularly at risk for the negative (side) effects associated with this crisis. Relying on a cross-fertilization between Erikson's personality theory and Self-Determination Theory, this study aimed to examine possible sources of resilience (i.e., ego integrity and need satisfaction) and vulnerability (i.e., despair and need frustration) in older adults' (mal)adjustment, thereby additionally considering the role of multiple risk and protective factors (e.g., gender and marital status). During the second month of the lockdown period in Belgium, 693 older adults ($M_{\text{age}} = 70.06$, $SD = 4.48$, range: 65 – 89 years, 62.1% female) filled out online questionnaires concerning the study variables, while also completing assessments of several important sociodemographic factors. Structural equation modeling showed that both ego integrity and despair related to indicators of well-being and ill-being through experienced need satisfaction and need frustration. Additionally, we found several factors to protect (e.g., higher perceived income) or diminish (e.g., being widowed) older adults' well-being during these challenging times, with little evidence for a moderating role of these factors in associations between the psychological variables. Theoretical and practical implications of these results are discussed.

Background

In 2020, the lives of people across the world were impacted heavily by the Covid-19 pandemic. The virus not only represents a direct health threat but also the public measures taken to mitigate the transmission of the virus further interrupted people's normal, daily routines in an intrusive manner. Older adults have been especially vulnerable during this pandemic, as indicated by higher mortality rates, increased social isolation, delay of medical treatment, and difficulties to engage in daily activities (e.g., not being able to go grocery shopping) (Miller, 2020). For instance, on the 3rd of May, there were 7,844 deaths linked to Covid-19 in Belgium, whereof 4,164 deaths (53%) involved individuals in care homes (Comas-Herrera et al., 2020). In light of these findings, it is critical to identify the sources underlying older adults' psychological functioning during this pandemic. Based on Self-Determination Theory (SDT; Deci & Ryan, 2000; Ryan & Deci 2017) and Erikson's theory of psychosocial development (Erikson, 1963), the overall aim of this study was to examine whether older adults' successful resolution of the psychosocial crisis of ego integrity versus despair would relate to their well-being during the Covid-19 crisis via levels of need satisfaction and need frustration, with several risk (e.g., illness) and protective factors (e.g., higher income) possibly moderating these relations.

The Importance of Ego Integrity and Despair for Older Adults' Well-being

As proposed by Erikson (1963), from the age of about 65 years, individuals face the last of eight psychosocial crises, namely a crisis concerning achieving a sense of ego integrity while avoiding despair. During this crisis, elderly reflect on their life in an attempt to unify past events into a meaningful "life puzzle" and they come to terms with past negative events. When successful, individuals will experience a sense of ego integrity, where they can accept past events, see their life in a coherent perspective, and regard death as a natural and integral part of life. Despair, on the other hand, is concerned with difficulties in accepting and finding wholeness in one's own life path and often comes with high levels of regret. Although most studies focused solely on ego integrity, several studies have shown that ego integrity and despair are not mere opposites. When elderly do not feel desperate about life choices that were made, they have not necessarily achieved a sense of ego integrity. Demonstrating the distinction between both orientations, they were found to develop differently across time, with ego-integrity increasing particularly between early midlife (age 43) and late life (age 72) and with despair increasing from age 43 to age 53 and then decreasing until the age of 72 (Newton et al., 2019).

Although the crisis of ego integrity and despair becomes especially salient during late adulthood, it can also surface when older individuals are confronted with challenging contexts and events, such as the loss of loved ones and illness (Kivnick & Wells, 2014). The Covid-19 crisis posed many of these psychological challenges and perhaps even raised fundamental existential questions among many people. Confronted with an increased risk for illness and death, people may wonder more often about the meaning of their past life and about their current life structure. Depending on whether they address the existential questions with a sense of ego-integrity or with a sense of despair, people are likely to experience the Covid-19 crisis very differently, with those having achieved a sense of ego-integrity being better capable to act in a resilient way and those being high in despair instead being more vulnerable for maladjustment. Congruent with this reasoning, previous studies found ego integrity to relate to higher levels of mental health (e.g., life satisfaction) and lower levels of ill-being (e.g., depressive symptoms), whereas despair shows an opposite pattern of associations (e.g., Derdaele et al., 2019; Lamers et al., 2011; Van Hiel & Vansteenkiste, 2009).

The Explanatory Role of Need-based Experiences

Recent research has begun to examine mechanisms that may underlie associations between ego-integrity, despair, and late adults' mental health. On the basis of SDT Van der Kaap-Deeder et al. (2020) considered the role of individuals' need-based experiences. Within SDT, it is postulated that the satisfaction of three innate psychological needs is essential for individuals' thriving and well-being (Ryan & Deci 2017; Vansteenkiste et al., 2020). First, the need for autonomy denotes experiencing a sense of personal freedom and choice. This need is satisfied, for instance, when individuals feel that their actions are congruent with who they are, whereas feelings of pressure and coercion are indicative of autonomy frustration. Second, the need for competence refers to the experience of mastery and effectiveness. Being able to successfully pursue personally important goals signifies competence satisfaction. In contrast, when feeling overwhelmed by situational demands and feeling like a failure, individuals experience a high level of competence frustration. Third, the need for relatedness entails experiencing a sense of belonging and mutual care. This need is satisfied, for

instance, when individuals feel connected to and understood by important others, whereas feelings of isolation and social exclusion are suggestive of relatedness frustration. Due to the Covid-19 pandemic, individuals are likely to experience difficulties in getting these needs met, thereby experiencing for instance restriction of choice (autonomy frustration), solitude and social alienation (relatedness frustration), and inadequacy in pursuing important goals (competence frustration).

A vast number of studies, mostly focusing on children, adolescents, and (young) adults, have documented the beneficial effects of need satisfaction and the detrimental effects of need frustration for individuals' mental health (see for an overview Ryan & Deci, 2017; Vansteenkiste & Ryan, 2013). However, research increasingly demonstrates the importance of these psychological needs for the well-being of older adults as well (e.g., Custers et al., 2013). Indeed, Tang et al. (2019) showed in a meta-analysis of 17 studies among older adults that need satisfaction was positively associated with indicators of well-being (such as life satisfaction) and negatively associated with indicators of ill-being (such as depression). Longitudinal studies even showed that need satisfaction is predictive of better psychological adjustment to retirement within a six-year period (Houlihan et al., 2015) and of increased psychological adjustment over a one-year period among nursing home residents (Philippe & Vallerand, 2008).

Conceptually, ego integrity is likely to foster experiences of need satisfaction and despair is likely to engender need frustration (Van der Kaap-Deeder et al., 2020). That is, individuals who regard their lives as meaningful and have come to terms with difficult past events, are more likely to experience feelings of volition, competence, and connectedness with important others. Several processes can account for these associations, including a more positive appraisal of potentially need-satisfying events among people high on ego-integrity and an inclination to proactively seek more need-satisfying contexts and activities. In line with this reasoning, James and Zarrett (2006) showed that ego integrity in women aged over 70 was positively related to feelings of autonomy, mastery, and positive relationships with others related (see Ferrand et al., 2014 and Wettstein et al., 2015 for similar evidence).

Risk Factors During the Covid-19 Crisis

Although older adults have been particularly hard hit by the Covid-19 pandemic (Miller, 2020), certain factors are likely to have increased or decreased the negative impact of the pandemic among this population. Specifically, older adults with specific health-risks such as chronic respiratory issues, are more likely to be affected by the Covid-19 pandemic (Cohen & Tavares, 2020), perhaps compromising their well-being. Research also showed that older women display lower subjective well-being compared to older men (Lukaschek et al., 2017). On the positive side, having a higher education could be a protective factor, with previous studies showing university-educated older adults to report a higher level of ego integrity (Solcova et al., 2020) and well-being (Wiesmann & Hannich, 2008). Using electronic devices such as smartphones to connect with others might also enable older adults to cope better with the situational demands of the pandemic. Smartphone use (but not smartphone proficiency) has been linked to decreased loneliness and increased ego integrity (Kim et al., 2020). Income, social status, and family relationships (e.g., with their own children) have also been found to affect older adults' well-being and ego integrity (e.g., Hannah et al., 1996; James & Zarrett, 2006) and could provide a financial or social buffer against the hardships imposed by the Covid-19 crisis.

The Present Research

Older adults are particularly vulnerable to the mental health risks associated with the Covid-19 pandemic. The present research sought to better understand late adults' mental health during a period of crisis through a further cross-fertilization between Erikson's identity theory and Self-Determination Theory. We hypothesized that ego integrity would serve as a source of resilience to better handle the current Covid-19 crisis, while despair would put older individuals at risk for maladjustment. Drawing on Erikson's epigenetic principle, older adults who already achieved a sense of ego-integrity prior to the Covid-19 outbreak may have more resources available to deal with the uncertainty and threats to one's basic psychological needs, while the Covid-19 crisis may amplify the vulnerabilities of those who 'entered' the crisis high in despair. Specifically, we hypothesized that ego-integrity would relate positively to well-being and negatively to ill-being, whereas an opposite pattern of relations was expected for despair (Hypothesis 1). Further, we hypothesized that need satisfaction and need frustration would mediate these above stated relations (Hypothesis 2). Finally, we examined in an explorative fashion the role of key risk and protective factors in older adults' ego integrity, despair, need-based experiences, and psychological functioning, thereby focusing both on possible main and moderating effects of these factors.

Method

Procedure and Participants

From March 19th till April 24th 2020, a large and heterogeneous group of Belgian citizens participated in a nation-wide survey. This study was organized to examine citizens' motivation to abide by measures taken by the government to contain the SARS-CoV-2 virus. Before finishing this online questionnaire, participants were asked if they were willing to participate in a second survey. Those who agreed to participate a second time with an age over 65 years were contacted for the purposes of the present study between April 24th and May 5th. That way, a total sample of 693 older adults (62.1% female, *M*_{age} = 70.06; *SD* = 4.48; range: 65 – 89 years) was collected. Regarding participants' marital status, 55.3% was married, 16.5% was divorced, 14.4% was a widow(er), 8.2% was single, and 5.6% was cohabiting. On average, participants had about 2 children and 3 grandchildren. The highest level of education obtained was 2.7% primary school or no education, 35.2% high school, 36.8% higher non-university education and 21.1% higher university education (4.2% indicated to have another education not listed in the questionnaire). Almost all participants lived at home

(98%). The procedures were approved by the ethics committee of the faculty of psychology and educational sciences of [University blinded for review] (nr. 2020/37).

Measures

Risk or Protective Factors. First, participants were asked to indicate their *age, gender, marital status, education level*, and the *number of children and grandchildren*. With regard to *perceived income*, individuals were asked the following question: “If you think of all the sources of income available to your household, to what extent do you think this income (apart from the corona crisis) is sufficient to make ends meet every month?”. This question was answered on a 4-point Likert scale ranging from 1 (*It is not enough at all. It is very difficult to make ends meet.*) to 4 (*It is certainly sufficient. It works well to make ends meet.*). Participants were also asked to provide information about their *medical condition* by indicating whether they had one of eight medical conditions: respiratory condition (e.g., asthma, tuberculosis), diabetes, heart disease or hypertension, lung disease, liver disease, cancer, disease affecting the immune system, and a disease not specified in the above list. A sum score indicated that participants on average had 0.89 ($SD = 0.86$; range: 0 – 4) of the listed medical conditions. Individuals also indicated through which *means of communications* they were currently trying to meet their need for social support, by indicating whether they used phone calls, electronic communication (e.g., e-mail, text message), virtual communication (e.g., videocall via Skype or WhatsApp), personal contact, social media (Facebook, Instagram), or another form of communication. A sum score indicated that participants on average employed 3.30 ($SD = 1.16$; range: 1 – 6) of the listed communication means.

Ego Integrity and Despair. To assess ego integrity and despair, we employed a shortened version of the scale developed by Van Hiel and Vansteenkiste (2009). Example items are “I am able to accept the ups and downs of my past life” (ego integrity; 3 items) and “I look back upon my life with a feeling of discontent and regret” (despair; 3 items). Items were rated on a 5-point Likert scale, ranging from 1 (*Completely not true*) to 5 (*Completely true*). Cronbach’s alphas were .80 for ego integrity and .85 for despair.

Need Satisfaction and Frustration. We assessed current need satisfaction and need frustration with a shortened version of the Basic Psychological Need Satisfaction and Need Frustration scale (BPNSNF; Chen et al., 2015). Example items are “I feel a sense of choice and freedom in the things I undertake” (need satisfaction, 6 items) and “Most of the things I do feel like ‘I have to’” (need frustration, 6 items). Items were rated on a 5-point Likert scale, ranging from 1 (*Completely not true*) to 5 (*Completely true*). Cronbach’s alpha was .80 for both need satisfaction and need frustration.

Well-being. To measure life satisfaction and vitality as experienced during the past week, the most face valid items of the Satisfaction with Life Scale (Pavot & Diener, 1993) and the Subjective Vitality Scale (Ryan & Frederick, 1997), respectively, were selected. Participants were asked to what extent they were satisfied with their life (i.e., life satisfaction) and felt lively (i.e., vitality) during the past week, using a scale going from 1 (*Seldom or never, less than 1 day*) to 4 (*Mostly or all the time, 5 to 7 days*).

Ill-being. Depressive symptoms were assessed via a shortened version of the Center for Epidemiological Studies – Depression scale (CES-D; Radloff, 1977) which has been used in previous research (Van Hiel & Vansteenkiste, 2009), whereas anxiety symptoms were assessed by means of the short form of the State Trait Anxiety Inventory (STAI; Marteau & Bekker, 1992), added with the most face valid item of the long form of the STAI (i.e., “I feel anxious”). Following the item stem (i.e., “During the past week”), participants rated eight items (e.g., “I felt sad”) relating to depressive symptoms and five items (e.g., “I felt tense”) referring to anxiety symptoms on a scale ranging from 1 (*Seldom or never, less than 1 day*) to 4 (*Mostly or all the time, 5 to 7 days*). Loneliness as experienced during the past week was assessed with four items (e.g., “During the past week, how often did you feel that you had a lack of companionship”) of the UCLA Loneliness Scale (Russell, 1996). Items were rated on a scale ranging from 1 (*Never*) to 5 (*Always*). Cronbach’s alpha was .84 for depressive symptoms, .75 for anxiety symptoms, and .74 for loneliness.

Results

Descriptive Statistics and Preliminary Analyses

Descriptive statistics and bivariate Pearson correlations among the measured variables can be found in Table 1. Further, results of an ANOVA showed that women reported a lower level of life satisfaction ($F(1,691) = 6.90, p = .01$) and vitality ($F(1,691) = 4.47, p = .03$) and a higher level of depressive ($F(1,691) = 15.77, p < .001$) and anxiety ($F(1,691) = 9.60, p = .002$) symptoms than men. Findings of a second ANOVA showed that marital status had an effect on all study variables, except for need satisfaction. Overall, these findings indicated that married (and to a lesser extent cohabiting) participants displayed better mental health than individuals who were divorced, single, or widowed.

Primary Analyses

To examine the main hypotheses, we estimated path models using MPlus 8.3 (Muthén & Muthén, 1998-2017) through a robust maximum-likelihood approach. Several indices were employed to evaluate the fit of these path models, namely the χ^2 test, the Comparative Fit Index (CFI), the Standardized Root Mean square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA). Model fit was determined to be acceptable when the χ^2 / df ratio was 2 or below and by CFI values of .95 or above, SRMR values of .08 or below, and RMSEA values of .06 or below (Hu & Bentler, 1999; Kline, 2005). Only 0.74% of the data was missing. Little’s (1988) MCAR test indicated that these missing data were missing completely at random, $\chi^2(103) = 113.76, p = .22$. The use of the full information maximum likelihood (FIML) procedure was therefore appropriate to

estimate missing data (Schafer & Graham, 2002). Finally, we used bootstrapping (1,000 draws) to test the significance of indirect effects (Preacher & Hayes, 2008).

The Relation from Ego Integrity and Despair to Psychological Functioning. In a first path model, we entered ego integrity and despair as predictors of well-being indicators (i.e., life satisfaction and vitality) and ill-being indicators (i.e., depressive symptoms, anxiety symptoms, and loneliness). As this model was fully saturated, it had a perfect fit. Results showed that ego integrity and despair both related to all indicators of well-being and ill-being in the expected direction (r ranging between .15 and .29 for the positive effects and between -.11 and -.27 for the negative effects, $ps < .01$), although the effects of despair were overall somewhat stronger than the effects of ego integrity. Ego integrity and despair were moderately and negatively correlated ($r = -.49, p < .001$).

The Mediating Role of Need-based Experiences. Building on the previous model, in a second path model we added need satisfaction and need frustration as mediating variables between ego integrity and despair on the one hand and the indicators of well-being and ill-being on the other. Additionally, two significant direct effects from ego integrity to depressive symptoms and to anxiety symptoms were added. This model had a good fit; $\chi^2/df = 3.67$; CFI = .99; SRMR = .04; RMSEA = .06. As displayed in Figure 1, ego integrity related positively to need satisfaction which, in turn, related to increased well-being and decreased ill-being, whereas opposite effects were found for need frustration. Despair related through a lower level of need satisfaction and a higher level of need frustration to all outcomes, in the expected direction. Further, ego integrity related also directly and negatively to depressive symptoms and to anxiety symptoms. All indirect effects were found to be significant. That is, ego integrity related through need satisfaction and need frustration to the indicators of well-being (95% CI ranging between .012 and .085) and ill-being (95% CI ranging between -.097 and -.006). Similarly, despair related via both need satisfaction and need frustration to well-being (95% CI ranging between -.185 and -.029) and ill-being (95% CI ranging between .014 and .211).

The Role of Risk and Protective Factors. Finally, we aimed to examine the role of the risk or protective factors by first adding these factors as main effects to the model with respect to both the mediators (i.e., need-based experiences) and the outcomes. This model had an adequate fit; $\chi^2/df = 4.05$; CFI = .97; SRMR = .06; RMSEA = .07. Associations between the main study variables (i.e., ego integrity, despair, need-based experiences, and outcomes) were equivalent to the previous model. With respect to the risk or protective factors, 14 main effects were found to be significant which are displayed in Table 2. Specifically, a higher level of perceived income was related to more life satisfaction and less depressive symptoms, anxiety and loneliness. With respect to gender, female participants reported less life satisfaction and a higher level of depressive and anxiety symptoms. The more participants reported using different means of communication, the higher their level of reported need satisfaction and the lower their level of loneliness. Individuals who were divorced, single, and widowed had a higher level of depressive symptoms than their counterparts, with widowed individuals also experiencing less vitality. Finally, having more grandchildren related to less anxiety.

Subsequently, we examined the possible moderating role of the risk or protective factors by adding the interaction term between each of these factors and the predictors (i.e., ego integrity, despair, need satisfaction, and need frustration) one-by-one to the mediation model. Three interactions were found to be significant, from which the simple slope analyses and moderations are plotted in Figure 2A – C. These analyses show that ego integrity was negatively related to need frustration, especially for those having more means of communication ($\beta = -.07, p = .02$, Figure 2A). Next, more need satisfaction related to more vitality, with stronger effects among those with more medical conditions ($\beta = .10, p = .01$, Figure 2B). Finally, need frustration was associated with more loneliness among younger participants ($\beta = -.08, p = .02$, Figure 2C).

Discussion

The Covid-19 pandemic has posed an immediate threat to individuals' health, while disturbing and restricting individuals' daily lives. Older adults have been specifically challenged during these times, given their increased physical vulnerability, a higher risk for social isolation, and difficulties in getting their medical and daily needs met. The overall aim of this study was, therefore, to examine what factors increase or threaten older adults' ability to adapt to this crisis. In doing so, we sought for a cross-fertilization between two well-established theories of human development, namely Erikson's personality theory and Self-Determination Theory.

Previous studies have consistently shown the benefits of ego integrity for older adults' psychological functioning. Few studies, however, focused on the unique role of despair, often creating a composite score of ego integrity versus despair. Herein, we considered ego integrity as a source of resilience and despair as a vulnerability factor to 'enter' the Covid-19 outbreak. Current findings confirm the separate contributions of ego integrity and despair, with both ego integrity and despair uniquely relating to life satisfaction, vitality, depressive symptoms, anxiety symptoms, and loneliness, yet in opposite ways. Interestingly, effects of despair were somewhat stronger than the effects of ego integrity. Perhaps despairing over one's past life is especially detrimental during stressful times of social isolation, where reassurance from others is not always available and people might end up ruminating excessively over personal regrets.

Despite studies showing the importance of ego integrity and despair for older adults' psychological functioning, less is known about the underlying mechanisms behind these relations. In line with SDT and with previous studies showing ego integrity to be related to more indirect measures of need-based experiences (e.g., James & Zarett, 2006), we found that the effects of ego integrity and despair on well-being and ill-being were fully mediated by the experiences of need satisfaction and need frustration (although two direct effects of ego integrity remained significant). This indicates that when older adults are able to come to terms with their past, they experience more need satisfaction and less need frustration

during more difficult moments, as those encountered during the Covid-19 crisis. Presumably, those who have already achieved a sense of ego integrity experience greater need satisfaction from their current activities, either because they may self-select themselves into more need-satisfying activities, because they perceive situations in a more positive, need-conducive light, or because they may elicit more need-supportive responses from those around them.

Another aim of this study was to examine what factors might put older adults more at risk for maladaptive functioning during the Covid-19 crisis, or, in contrast, what factors could foster a more adaptive functioning during these challenging times. Specifically, we focused on the role of age, gender, marital status, education level, number of children, number of grandchildren, perceived income, sum of the medical conditions, and sum of means of communications, thereby examining both their main effects on (mal)adaptation as well as their possible moderating role. We found that having a higher perceived income, being male, having more grandchildren, and not being widowed, single or divorced were protective factors, relating to a higher level of well-being and a lower level of ill-being. These results are in line with previous studies showing the positive effects of income (Lukaschek et al., 2017), being a grandparent and male (Tanskanen et al., 2019), and being in a romantic partnership (Carr & Springer, 2010) on older adults' well-being.

Interestingly, we also found that older adults who used more different means of communication (e.g., phone calls, electronic communication such as text messages, and virtual communication including Skype or WhatsApp), reported a higher level of need satisfaction and less loneliness. The use of different communication means is especially important in old age, as older adults often face increasingly communication problems due to for instance cognitive decline or decreasing physical health. For instance, a large survey among adults aged 65 years or more showed that 42% reported hearing problems, 26% had writing problems, and 7% had problems using the telephone (Hoffman et al., 2005). Current findings seem to indicate that older adults who are more able to adapt their means of communication to their communication capabilities and needs thrive more, although more research on this issue is needed. Further, we found little evidence for the moderating role of these assessed factors, with only three interactions being significant. First, those with more means of communication benefitted more from ego integrity in terms of lower need frustration. Second, participants who reported a higher level of medical conditions, were more affected by need satisfaction in terms of more vitality. Finally, younger participants suffered more from need frustration as reflected in a higher level of loneliness. It is important to note, however, that all three interactions only indicated a difference in strength of these relations, with the main effect of for instance need frustration on loneliness being significant across all participants (irrespective of age).

Limitations and Future Challenges

This study had several important strengths, including the assessment of older adults' well-being in a historical time period (i.e., the Covid-19 pandemic), the use of a large sample, including indicators of both adaptive and maladaptive psychological functioning, and the cross-fertilization of two well-established theories on human development (i.e., Erikson's personality theory and SDT). Nonetheless, the study also had a number of important limitations.

First, this study used a cross-sectional design, thereby precluding the examination of possible reciprocal effects between for instance despair and ill-being. It could be the case that current negative feelings invoke more despair and regret over the past due to making negative memories from the past more salient. Future research employing more dynamic designs (e.g., longitudinal, diary) would be crucial in gaining more insight into these possible reciprocal associations.

On a methodological level, this study was limited by the use of single items for two of the outcomes (i.e., life satisfaction and vitality) and the employment of self-reports, which can cause same-source bias, shared method variance and retrospective bias. Although the use of self-reports for the processes of ego integrity, despair and need-based experiences is justifiable given the highly internal nature of these constructs, it would be informative to also have other informants report on the older adult's psychological functioning in future studies.

Almost all participants included in this study lived at home, restricting the generalizability of the current findings. As stated by Gardner et al. (2020), older adults living in care facilities during this crisis have an increased risk to experience social isolation and potentially even abuse and neglect compared with older adults living at home. Previous research stemming from before the pandemic has also shown older adults residing in hostels (instead of self-care apartments) to experience less ego integrity (assessed as the degree of accepting the past) (Rylands & Rickwood, 2001). It would therefore be important to replicate the current findings also among older populations living in care facilities.

Conclusion

Accepting and integrating past events into one's self plays a critical role in older adults' current functioning and well-being (e.g., Derdaele et al., 2019). The present study showed that a successful resolution of ego integrity versus despair is crucial for older adults' psychological functioning, even (and perhaps especially) during a pandemic crisis. Adding to previous literature by shedding light on mechanisms and bridging the gap between two well-established theories in human development, current findings showed need-based experiences to be crucial intervening processes in the associations of ego integrity and despair with mental health. Finally, results showed that some older adults (e.g., those with a higher perceived income) are more resilient in coping with this crisis, whereas others (e.g., those being widowed) are more vulnerable during these challenging times.

References

- Carr, D., & Springer, K. W. (2010). Advances in families and health research in the 21st century. *Journal of Marriage and Family, 72*, 743-761. <https://doi.org/10.1111/j.1741-3737.2010.00728.x>
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., et al. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion, 39*, 216-236. <https://doi.org/10.1007/s11031-014-9450-1>
- Cohen, M. A., & Tavares, J. (2020). Who are the most at-risk older adults in the COVID-19 era? It's not just those in nursing homes. *Journal of Aging & Social Policy, 32*, 380-386. <https://doi.org/10.1080/08959420.2020.1764310>
- Comas-Herrera, A., Zalakaín, J., Litwin, C., Hsu, A. T., Lane, N., & Fernández, J.-L. (2020, May 3). *Mortality associated with COVID-19 outbreaks in care homes: Early international evidence*. London School of Economics. <https://lccovid.org/wp-content/uploads/2020/05/Mortality-associated-with-COVID-3-May-final-6.pdf>
- Custers, A. F. J., Westerhof, G. J., Kuin, Y., Gerritsen, D. L., & Riksen-Walraven, J. M. (2013). Need fulfillment in the nursing home: Resident and observer perspectives in relation to resident well-being. *European Journal of Ageing, 10*, 201-209. <https://doi.org/10.1007/s10433-013-0263-y>
- Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- Derdaele, E., Toussaint, L., Thauvoye, E., & Dezutter, J. (2019). Forgiveness and late life functioning: The mediating role of finding ego-integrity. *Aging & Mental Health, 23*, 238-245. <https://doi.org/10.1080/13607863.2017.1399346>
- Erikson, E. H. (1963). *Childhood and society* (2nd ed.). New York: Norton.
- Ferrand, C., Martinent, G., & Durmaz, N. (2014). Psychological need satisfaction and well-being in adults aged 80 years and older living in residential homes: Using a self-determination theory perspective. *Journal of Aging Studies, 30*, 104-111. <https://doi.org/10.1016/j.jaging.2014.04.004>
- Gardner, W., States, D., & Bagley, N. (2020). The coronavirus and the risks to the elderly in long-term care. *Journal of Aging & Social Policy, 32*, 310-315. <https://doi.org/10.1080/08959420.2020.1750543>
- Hannah, M. T., Domino, G., Figueredo, A. J., & Hendrickson, R. (1996). The prediction of ego integrity in older persons. *Educational and Psychological Measurement, 56*, 930-950. <https://doi.org/10.1177/0013164496056006002>
- Hoffman, J. M., Yorkston, K. M., Shumway-Cook, A., Ciol, M. A., Dudgeon, B. J., & Chan, L. (2005). Effect of communication disability on satisfaction with health care: A survey of medicare beneficiaries. *American journal of speech-language pathology, 14*, 221-228. [https://doi.org/10.1044/1058-0360\(2005/022\)](https://doi.org/10.1044/1058-0360(2005/022))
- Houliort, N., Fernet, C., Vallerand, R. J., Laframboise, A., Guay, F., & Koestner, R. (2015). The role of passion for work and need satisfaction in psychological adjustment to retirement. *Journal of Vocational Behavior, 88*, 84-94. <https://doi.org/10.1016/j.jvb.2015.02.005>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.
- James, J. B., & Zarrett, N. (2006). Ego integrity in the lives of older women. *Journal of Adult Development, 13*, 61-75. <https://doi.org/10.1007/s10804-006-9003-2>
- Kim, K., Park, S. Y., & Kang, H. C. (2020). Smartphone proficiency and use, loneliness, and ego integrity: An examination of older adult smartphone users in South Korea. *Behaviour & Information Technology*. <https://doi.org/10.1080/0144929X.2020.1713213>
- Kivnick, H. Q., & Wells, C., 2014. Untapped richness in Erik H. Erikson's rootstock. *The Gerontologist, 54*, 40-50. <https://doi.org/10.1093/geront/gnt123>
- Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York: The Guilford Press.
- Lamers, S., Westerhof, G., Korte, J., & Bohlmeijer, E. T. (2011). The relation of ego-integrity to mental health in older adults with moderate depressive symptoms. *Gerontologist, 51*, 33-33 (Supplement). <https://doi.org/10.1093/geront/gns068>
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*, 1198-1202. <https://doi.org/10.2307/2290157>
- Lukaschek, K., Vanajan, A., Johar, H., Weiland, N., & Ladwig, K. H. (2017). "In the mood for ageing": Determinants of subjective well-being in older men and women of the population-based KORA-Age study. *BMC geriatrics, 17*, 126. <https://doi.org/10.1186/s12877-017-0513-5>

- Marteau, T. M., & Bekker, H. (1992). The development of a six- item short- form of the state scale of the Spielberger State–Trait Anxiety Inventory (STAI). *British Journal of Clinical Psychology, 31*, 301-306. <https://doi.org/10.1111/j.2044-8260.1992.tb00997.x>
- Miller, E. A. (2020). Protecting and improving the lives of older adults in the COVID-19 era. *Journal of Aging & Social Policy, 32*, 297-309. <https://doi.org/10.1080/08959420.2020.1780104>
- Muthén, L. K., & Muthén, B. O. (1998-2017). *Mplus user's guide* (8th ed.). Los Angeles, CA: Muthén & Muthén.
- Newton, N. J., Stewart, A. J., & Vandewater, E. A. (2019). "Age is opportunity": Women's personality trajectories from mid- to later-life. *Journal of Research in Personality, 80*, 43-54. <https://doi.org/10.1016/j.jrp.2019.04.005>
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment, 5*, 164–172. <https://doi.org/10.1037/1040-3590.5.2.164>
- Philippe, F., & Vallerand, R. (2008). Actual environments do affect motivation and psychological adjustment: A test of self-determination theory in a natural setting. *Motivation and Emotion, 32*, 81-89. <https://doi.org/10.1007/s11031-008-9087-z>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891. <https://doi.org/10.3758/BRM.40.3.879>
- Radloff, S. L. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401. <https://doi.org/10.1177/014662167700100306>
- Russell, D. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment, 66*, 20-40. https://doi.org/10.1207/s15327752jpa6601_2
- Ryan, R. M., & Deci, E. L. (2017). *Self-Determination Theory: Basic psychological needs in motivation, development, and wellness*. New York, NY, US: Guilford Press.
- Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality, 65*, 529-565. <https://doi.org/10.1111/j.1467-6494.1997.tb00326.x>
- Rylands, K. J., & Rickwood, D. J. (2001). Ego-integrity versus ego-despair: The effect of "accepting the past" on depression in older women. *International Journal of Aging & Human Development, 53*, 75-89. <https://doi.org/10.2190/1LN2-J92C-2168-THPH>
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*, 147–177. <https://doi.org/10.1037//1082-989X.7.2.147>
- Solcova, I., Dechterenko, F., Solcova, I. P., Hofer, J., Busch, H., & Au, A. (2020). Cross-cultural examination of university education and ego integrity in late adulthood: Implications for policy and practice. *Journal of Aging & Social Policy. https://doi.org/10.1080/08959420.2020.1722897*
- Tang, M., Wang, D., & Guerrien, A. (2019). A systematic review and meta-analysis on basic psychological need satisfaction, motivation, and well-being in later life: Contributions of Self-Determination Theory. *PsyCh Journal. https://doi.org/10.1002/pchj.293*
- Tanskanen, A. O., Danielsbacka, M., Coall, D. A., & Jokela, M. (2019). Transition to grandparenthood and subjective well-being in older Europeans: A within-person investigation using longitudinal data. *Evolutionary Psychology. https://doi.org/10.1177/1474704919875948*
- Van der Kaap-Deeder, J., Soenens, B., Van Petegem, S., Neyrinck, B., De Pauw, S., Raemdonck, E., Vansteenkiste, M. (2020). Live well and die with inner peace: The importance of retrospective need-based experiences, ego integrity and despair for late adults' death attitudes. *Archives of Gerontology and Geriatrics.*
- Van Hiel, A., & Vansteenkiste, M. (2009). Ambitions fulfilled? The effects of intrinsic and extrinsic goal attainment on older adults' ego-integrity and death attitudes. *International Journal of Aging and Human Development, 68*, 27-51. <https://doi.org/10.2190/ag.68.1.b>
- Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration, 23*, 263-280. <https://doi.org/10.1037/a0032359>
- Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic psychological need theory: Advancements, critical themes, and future directions. *Motivation and Emotion, 44*, 1-31. <https://doi.org/10.1007/s11031-019-09818-1>
- Wettstein, M., Schilling, O. K., Reidick, O., & Wahl, H.-W. (2015). Four-year stability, change, and multidirectionality of well-being in very-old age. *Psychology and Aging, 30*, 500-516. <https://doi.org/10.1037/pag0000037>

Tables

Table 1
Descriptives of and Correlations between the Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Education level	-															
Nr. of children	.02	-														
Nr. of grandchildren	.17***	.01	-													
Perceived income	.20***	.09*	.55***	-												
Communication	.06	.27***	.02	.03	-											
Life satisfaction	.10*	-.04	-.01	-.02	-.11**	-										
Vitality	-.05	.06	.02	.13**	.11**	.01	-									
Depressive symptoms	.09*	.06	.06	.06	.17***	-.01	.13**	-								
Anxiety symptoms	-.09*	-.10*	-.04	-.11**	-.25***	.12**	-.16***	-.49***	-							
Loneliness	.07	-.02	.09*	.10**	.08*	-.08	.15***	.38***	-.42***	-						
Life satisfaction	-.02	-.05	-.03	-.07	-.15***	.10*	-.14***	-.37***	.50***	-.73***	-					
Vitality	.03	.09*	.09*	.12**	.21***	-.01	.12**	.32***	-.36***	.43***	-.45***	-				
Depressive symptoms	.01	.05	.10**	.12**	.17***	-.08*	.11**	.27***	-.32***	.44***	-.47***	.69***	-			
Anxiety symptoms	-.05	-.10**	-.03	-.08*	-.27***	.11**	-.06	-.38***	.41***	-.47***	.53***	-.59***	-.60***	-		
Loneliness	-.02	-.11**	-.06	-.13**	-.27***	.04	-.09*	-.39***	.38***	-.45***	.47***	-.70***	-.66***	.77***	-	
	70.06	4.86	2.10	3.20	3.24	0.89	3.30	3.96	2.13	3.97	1.95	3.20	2.91	1.46	2.30	2.64
	4.48	1.33	1.50	3.02	0.76	0.86	1.16	0.74	0.98	0.62	0.71	0.98	0.99	0.51	0.69	0.89

Note. *** $p < .001$.

Table 2
Main Effects of the Risk or Protective Factors

	Need satisfaction β (p -value)	Need frustration β (p -value)	Life satisfaction β (p -value)	Vitality β (p -value)	Depressive symptoms β (p -value)	Anxiety symptoms β (p -value)	Loneliness β (p -value)
Gender	-	-	-.10 (.01)	-	.08 (.01)	.11 (.002)	-
Marital status	-	-	-	Widowed: -.13 (.02)	Divorced: .13 (.01) Single: .12 (.01) Widowed: .18 (.001)	-	-
Nr. of grandchildren	-	-	-	-	-	-.11 (.003)	-
Perceived income	-	-	.15 (<.001)	-	-.13 (.001)	-.18 (<.001)	-.07 (.047)
Communication	.07 (.046)	-	-	-	-	-	-.07 (.03)