Subjective Accelerated Aging Moderates the Association between COVID-19 Health Worries and Peritraumatic Distress among Older Adults

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Abstract

Background

The present study examined whether subjective accelerated aging moderated the relationship between COVID-19 health worries and COVID-19 peritraumatic distress among older adults.

Method

The sample consisted of 277 older adults ($M=69.58$, $SD=6.73$, range 60-92) who answered an online questionnaire during the outbreak of COVID-19 pandemic in Israel. Participants completed measures of background characteristics, exposure to COVID-19, COVID-19 health worries, subjective accelerated aging and COVID-19 based peritraumatic distress.

Results

Higher levels of COVID-19 health worries were correlated with higher levels of peritraumatic distress symptoms among older adults. Moreover, those reporting accelerated aging also reported higher level of peritraumatic distress. Finally, the interaction between COVID-19 health worries and subjective accelerated aging predicted peritraumatic distress, suggesting that COVID-19 worries were associated with peritraumatic distress to a stronger degree among older adults who felt they were aging faster.

Conclusions

The findings indicate that negative views of aging may serve as an amplifying factor for traumatic distress during the COVID-19 pandemic. Although preliminary, the findings provide
insight for potential screening and interventions of older adults at risk of developing peritraumatic distress symptoms during the global pandemic.

**Keywords**

COVID-19, subjective accelerated aging, health worries, peritraumatic distress
Introduction

On March 11, 2020, the World Health Organization (WHO) declared that the coronavirus disease 2019 (COVID-19) outbreak could be characterized as an international pandemic as the virus had spread increasingly worldwide (WHO, 2020). COVID-19 is a severe and persistent virus, by March 19th 2021, the morning after the Israeli government announced the fourth step out of the third nationwide lockdown, 826,217 Israeli citizens had been tested positive for COVID-19, with 6071 deaths, most of them older adults (Ministry of Health, Israel, 2021). The aging population in particular has been one of the most vulnerable, with a high number of older adults infected globally (Niu et al., 2020). Preliminary data has attested that COVID-19 has adverse psychological outcomes (Qiu et al., 2020) such as depressive symptoms, anxiety, and high levels of worries and stress (Palgi et al., 2020b; Wang et al., 2020a). Likewise, COVID-19 has resulted in fear (Ahorsu et al., 2020), depression, anxiety (Palgi et al., 2020b), and death anxiety (Ring et al., 2020) among the older population. However, older adults suffering from chronic medical conditions related to increased risk of death due to COVID-19 were not found to be at higher risk for depressive and anxiety symptoms (Palgi et al., 2020b).

A systematic review of 43 studies addressing mental health consequences of the COVID-19 pandemic, revealed high levels of post-traumatic stress symptoms and depressive symptoms among COVID-19 patients (Vindegaaard & Benros, 2020). Moreover, patients with preexisting psychiatric disorders displayed increased levels of these symptoms. Studies also revealed increased psychiatric symptom levels, e.g., depression, anxiety, psychological distress, and poor sleep quality among health care workers. Studies also showed lower levels of psychological well-being and higher levels of anxiety and depression in the general public than before the
COVID-19 pandemic (Vindegaard & Benros, 2020). Studies of the severe acute respiratory syndrome (SARS) epidemic indicated that survivors suffered from severe mental outcomes including depression, anxiety, and suicidal tendency (Lee et al., 2007; Maunder et al., 2003). Nevertheless, there is minimal evidence available on the mental health implications of prior medical pandemics (Sood, 2020; Tsang et al., 2004). Consequently, an urgent plea to the academic world was made to conduct trauma research during the COVID-19 pandemic (Horesh & Brown, 2020). This is particularly important among older adults, which the trauma literature has understudied throughout the years. The present study, therefore aimed to provide data that would shed light on the role that views of aging play in the traumatic distress experienced among the older population during the COVID-19 pandemic. Specifically, the study aimed to examine subjective accelerated aging as moderating the link of between COVID-19 health worries and peritraumatic distress among older adults.

*Peritraumatic distress*

Peritraumatic distress relates to cognitive and emotional distress throughout and immediately following a traumatic event (Brunet et al., 2001; Palgi et al., 2020a). A person’s peritraumatic encounter is determined by several determinants, such as the continuance of exposure and proximity to the event (Kannis-Dymand et al., 2019). Peritraumatic distress symptoms have been positively correlated with posttraumatic stress disorder (PTSD) symptoms (e.g., Palgi et al., 2020a; Thomas et al., 2012) after both human-made (Simeon et al., 2003) and natural catastrophes (Basoglu et al., 2004; Hollifield et al., 2008). Prior examinations of mass events, such as natural catastrophes typically are accompanied by adverse effects on mental health, in particular with PTSD (Makwana, 2019). It has already been noted that the unexpected outbreak of a disease bears a threat to the mental health of the population, as demonstrated in
China during the initial stages of the COVID-19 breakout (Ahmed et al., 2020). Therefore, the current pandemic is a high-risk emergency for psychiatric morbidity (Sood, 2020), with a major concern being the development of PTSD (Banerjee, 2020). As mentioned, peritraumatic distress is known to be associated with PTSD (e.g., Palgi et al., 2020); thus, we aimed to examine peritraumatic distress among older adults, who are considered at higher risk for severe COVID-19 complications. This is also as important as older adults are more prone at risk of developing to develop medical complications following from the COVID-19 (Emami et al., 2020) and thus may, therefore, report be more worried COVID-19 worries. We thus sought to explore the relationship between COVID-19 health worries and peritraumatic distress among older adults.

**COVID-19 health worries**

Worries refer to fundamental cognitive features of anxiety, characterized by the repeated occurrence of ideas, thoughts and images about possible adverse events, which are relatively uncontrollable (Borkovec et al., 1983; Williams, 2013). Worries may impact well-being and mental health if they appear repeatedly, resulting in a harmful level of anxiety (Reis et al., 2019). Nevertheless, worries are not confined to patients with anxiety disorders or to a particular emotion, but are rather relationally rooted in distinct settings (Lutz & White, 1986). Worries have been found to be a focus in health-related issues, with numerous studies reporting an association between worries and medical illnesses, such as cancer patients (e.g., Roy et al., 2019), patients with heart failure (e.g., Bagheri et al., 2018), Crohn’s disease patients (Wåhlin et al., 2019), and individuals suffering from asthma (e.g., Islamovic et al., 2019). During an influenza outbreak, 10-30% of the general public reported being very or moderately worried about the probability of contracting the virus (Rubin et al., 2010). In line with this notion, recent studies have indicated that since the outbreak of COVID-19, levels of fears and worries have
increased (Lin, 2020). The rise in health worries is understandable, due to the relatively high morbidity risk of morbidity and death caused by COVID-19 (Kobayashi et al., 2020), inadequate vaccines or approved drugs (Sood, 2020), the vagueness of the situation, fears about the safety of the new vaccine in Israel, the leading country to operate a COVID-19 vaccine program, regarding the vaccine’s long-term effects (Ministry of Health, Israel, 2021), and the need for quarantine for undetermined periods (Ahmed et al., 2020).

Since the COVID-19 breakout, constant worrying has already been noted in the population, with differences in severity (Sihag & Kumar, 2020). Moreover, as old age has been determined to be a major risk factor for COVID-19 complications, (Emami et al., 2020; Wang et al., 2020b), it has also been proposed that older adults are expected to have higher stress levels during the COVID-19 pandemic (Kar, 2020). Following Kar’s (2020) proposal, and in conjunction with recent indications that between coping with trauma exposure together with the challenges of aging is linked with subjective perceptions of faster aging (Palgi, 2020), we examine whether the COVID-19 health worries—peritraumatic distress link is moderated by subjective accelerated aging. The rationale for examining the potential link of accelerated aging with COVID-19 worries is based on several issues. First, higher levels of stress were observed in older adults due to COVID-19 (Kar, 2020). Second, older adults are at higher risk for COVID-19 complications (Santesmasses, et al., 2020). Third, PTSD which is closely linked with peritraumatic stress, has been addressed as secondary COVID-19 outcome (Dutheil et al., 2020). Fourth, the recent findings (Palgi, 2020) showing positive linkage between trauma exposure, challenges of aging, and accelerated aging.

Subjective accelerated aging
The term subjective age refers to how old people perceive themselves to be (Stephan et al., 2015). Studies have reported an association between subjective age and adverse mental and physical outcomes (e.g., Choi & DiNitto, 2014), including traumatic exposure (Schafer, 2009), acute stress disorder (Hoffman et al., 2015) and PTSD symptoms (Hoffman et al., 2016; Solomon et al., 2009). An older subjective age has also been reported as both moderating the PTSD-posttraumatic growth link (Palgi, 2016), as well as strengthening the adverse effect of posttraumatic symptoms on successful aging (Shrirra et al., 2016).

Based on the subjective weathering hypothesis, which asserts that subjective aging is a key aspect of the stress process (Benson, 2014), it may be assumed that people tend to cognitively divert their internalized clock and form an older age identity due to traumatic events (Hoffman et al., 2016; Palgi, 2016). Moreover, a similar psychological process paralleling the biological process of accelerated aging occurs (Palgi, 2020). Accordingly, age identity has been reported not as a defined measure, but rather an identity that may oscillate during difficult life events (Schafer & Shippee, 2010). Based on these theories, Palgi (2016) suggested that coping with trauma exposure, while coping with the challenges of aging, may bring people to feel their aging process is accelerated. This has been demonstrated among ex-prisoners of war with high levels of PTSD symptoms, who demonstrated shortened telomere length – an indicator of neural accelerated aging (Tsur et al., 2018) as well as an older subjective age (Avidor et al., 2016). In order to measure subjective accelerated aging using the subjective age index, a series of longitudinal measures may be advantageous to examine a non-linear change. Yet, given the abovementioned association between objective and subjective measures of accelerated aging, indicating the awareness people have to their physical aging process, subjective accelerated aging across time can be queried directly at a single given time point to assess if
one’s feeling of the aging acceleration of aging across time. This assumption is based on previous studies, that focused on measures that indicated that which found subjective age was to be found to be a better predictor of psychological and health-related functioning (Kotter-Grühn et al., 2009) than chronological age was). Nevertheless, to the best of our knowledge, only two studies one study to date specifically asked specifically whether participants experienced accelerated aging (Bergman & Palgi, 2020; Palgi, 2020); results reveal that accelerated aging was linked with both higher levels of PTSD symptoms and lower levels of positive mental health with this single item querying subjective accelerated aging in a cross-sectional manner.

In summary, based on the above theories and findings, the present study aimed to broaden the understanding of factors that are linked with increased peritraumatic distress symptoms in older adults. More specifically, the study focused on Additionally, we asked if subjective accelerated aging as a moderator of the relationship between COVID-19 health worries and peritraumatic distress among older adults would moderate this link. It was first hypothesized that higher levels of COVID-19 health worries would be related to peritraumatic distress among older adults. The second hypothesis maintained that subjective accelerated aging would moderate this association. Namely, relative to lower levels of accelerated aging, for persons with higher levels of accelerated aging there would be a stronger positive relationship between COVID-19 health worries and peritraumatic distress among older adults.
Method

Participants and procedure

The current study used data drawn from an online survey in Israel between March 16 to April 14, 2020. On April 14th, 2020, the last day of data collection, 12,046 Israeli citizens were tested positive for COVID-19, with 123 deaths, most of them older adults (https://www.worldometers.info/coronavirus/country/israel/). Participants included 277 older adults between the ages of 60 to 92, with an average age of 69.58 (SD=6.73). The majority of the participants were women (n=191, 69.0%), married/living with a partner (n=204, 73.6%) and had tertiary academic education (n=201, 72.8%). Almost half of the participants self-rated their health as good/very good (n=178, 64.5%). Less than half of the participants reported having chronic diseases which are associated with increased medical complications due to COVID-19 (n=115, 42.9%). The data collection process began after receiving IRB approval from the Ethics Committee at Bar-Ilan University. All participants signed an electronic informed consent form before completing the questionnaire. The background characteristics of the study sample are presented in Table 1.

Measures

Background characteristics included age, gender, marital status 1(single, widow, divorced) 2 (married or leaving with a partner), level of education was classified into one of six categories in line with the International Standard Classification of Educational Degrees (ISCED-97) (United Nations Educational, Scientific, and Cultural Organization, 1997) ranging from 1 (without formal education) to 6 (formal tertiary education) and health status rated from 1 (not at all good) to 5 (very good). In addition, participants were asked if they suffered from chronic
diseases (i.e., cardiovascular disease, diabetes, chronic respiratory disease, hypertension, and cancer), which have been associated with increased medical complications due to COVID-19. 

Exposure to COVID-19 was assessed by respondents answering *yes* or *no* to six questions regarding exposure to the coronavirus (i.e., currently or previously being in quarantine, having had coronavirus, knowing people, family members or friends in quarantine or who had coronavirus). The exposure score was the sum of events the participant was exposed to. 

**COVID-19 health worries** were assessed by a 4-item scale designed for this study. Participants rated their levels of health worries about self or close relatives and friends developing COVID-19, or infecting others by COVID-19 (i.e., how worried are you about: being infected by the coronavirus, about people close to you likely to have been infected by the coronavirus, about one of your family members likely to be infected by the coronavirus, about carrying the coronavirus and about infecting those close to you) on a five-point scale from 1 (*completely disagree*) to 5 (*completely agree*). In this study, Cronbach’s α for COVID-19 health worries was 0.78. 

**Subjective accelerated aging** was assessed by a single item (adapted from Palgi, 2020). Participants rated their subjective accelerated aging on a five-point scale, by answering the question “On the whole, I feel that due to the COVID-19: 1 (*my aging rate is very slow*) to 5 (*my aging rate is very fast*)”. Higher scores indicate higher subjective accelerated aging. 

**Peritraumatic distress symptoms** were assessed by the 13-item Peritraumatic Distress Inventory (PDI, Brunet et al., 2001). Participants rated their symptoms by referring to COVID-19 outbreak on a five-point scale from 0 (*not at all*) to 4 (*extremely true*). The peritraumatic distress score was the sum of ratings, with higher scores indicating greater distress. Cronbach’s α
in a previous study that used the Hebrew translation was 0.87 (Palgi et al., 2020a). In this study, Cronbach’s α for peritraumatic distress was 0.84.

Data analysis

First, Pearson correlations were conducted to establish preliminary associations between the study variables. Next, examination of the moderation model was conducted using the IBM SPSS statistic package (SPSS-25) to conduct hierarchical regression analysis, where peritraumatic distress was regressed on the following variables across steps: Background characteristics were entered in the first step of the multiple hierarchical regression, COVID-19 related covariates (chronic diseases and exposure to COVID-19) in the second step, COVID-19 health worries and subjective accelerated aging in the third step, and finally the interaction between COVID-19 health worries and subjective accelerated aging was entered in the fourth step. The moderation model (Model 1), was tested, using the PROCESS 3.1 macro for SPSS (Hayes, 2017). A preliminary multicollinearity test was performed to confirm that the regression hypotheses were met. Results showed that the tolerance of all independent variables (age, gender, education, self-rated health, marital status, chronic diseases, health worries, and subjective accelerated aging) ranged from .654 to .970; the variance inflation factor (VIF) ranged from 1.031 to 1.526, revealing no multicollinearity (O’Brien, 2007).

Results

COVID-19 health worries were positively associated with subjective accelerated aging ($r=.15, p<.05$) and with peritraumatic distress ($r=.40, p<.01$). Subjective accelerated aging was positively associated with peritraumatic distress ($r=.38, p<.01$). It was important to control for these background characteristics as they were associated with at least one of the study’s variables
and there has been some variability regarding participants’ exposure levels to various forms of COVID-19 stressors (e.g., isolation). For further information see Table 1.

In order to examine the study’s hypotheses, a multiple hierarchical regression was conducted. The results showed that older adults who reported higher levels of COVID-19 health worries also reported higher levels of peritraumatic distress symptoms ($\beta=.345$, $t=5.879$, $p<.001$). In addition, those who reported higher levels of subjective accelerated aging also reported higher levels of peritraumatic distress symptoms ($\beta=.301$, $t=5.134$, $p<.001$). Finally, the interaction between COVID-19 health worries and subjective accelerated aging predicted peritraumatic distress ($B=2.186$, $\beta=.299$, $t=5.298$, $p<.001$). This interaction explained an additional 7.74% of the variance. See Table 2.

Probing this interaction, it was found that for older adults who reported a slow rate of aging (i.e., 1 SD below the mean; lower subjective accelerated aging), each additional point in COVID-19 health worries score was associated with a non-significant increase of 0.72 points in peritraumatic distress symptoms, ($B=0.72$, $t=1.35$, $p=.18$). However, for older adults reporting a faster rate of aging (i.e., 1 SD above the mean; high subjective accelerated aging), each additional point in COVID-19 worries score was associated with a significant increase of 4.64 points in the level of peritraumatic distress symptoms, ($B=4.64$, $t=8.16$, $p<.001$). See Figure 1.

**Discussion**

To the best of our knowledge, the present study is the first to examine the relationship between COVID-19 health worries and peritraumatic distress among older adults, and in particular, the moderating role of subjective accelerated aging in this relationship. As hypothesized, older adults who reported higher levels of COVID-19 health worries also reported
higher levels of peritraumatic distress symptoms. Moreover, those who felt they were aging fast (i.e., higher subjective accelerated aging levels) reported higher level of peritraumatic distress symptoms. Finally, the interaction between these measures accentuates that the relationship between COVID-19 health worries and peritraumatic distress was stronger among people who reported feeling they were aging faster. The significance of these findings will now be discussed in detail.

In line with the first hypothesis, high levels of COVID-19 health worries among older adults were found to be related to higher levels of peritraumatic distress. This association highlights the physical and psychological distress older adults experience during a pandemic. The present findings are in line with the association found between exposure to mass trauma events, such as natural catastrophes and adverse mental health outcomes, in particular PTSD (Makwana, 2019). In addition, the present findings are consistent with preliminary findings among adults during the pandemic that showed associations between higher levels of COVID-19 health worries and anxiety (Bergman et al., 2020) and between higher levels of COVID-19 health worries and death anxiety (Ring et al., 2020).

Consistent with our second hypothesis, older adults who felt they were aging faster also reported higher levels of peritraumatic distress. The findings underscore the effect of subjective accelerated aging when coping with stressful life events, such that older adults who sense their aging has accelerated, are less resilient in the context of coping with COVID-19. The current findings align with the association found between subjective age and neurobiological accelerated aging (e.g., Tsur et al., 2018), as well as the association found between subjective accelerated aging and PTSD symptoms (Palgi, 2020). In addition, as noted by Palgi (2020), the concept of subjective accelerated aging appears to be an integrated part of the concept of subjective views.
of aging (Wurm et al., 2017) and these findings demonstrate its utility as an additional aspect of this concept.

In interpreting the interaction found in the present study between COVID-19 health worries and subjective accelerated aging, it can be speculated that older adults who felt they were aging faster were more vulnerable to the negative concomitants of COVID-19 worries, i.e., those who viewed themselves as rapidly progressing towards old age, an age at higher risk for severe COVID-19 illness, had no buffer against COVID-19 worries. Therefore, it seems that under the current context, where medical circumstances emphasized older ages as a risk factor for a severe illness, feeling one’s aging process as slower is a potential resource that can render one more immune to the effects of health worries. They had no buffer (as did those with lower accelerated aging) and were putatively thus less likely to display resilience to peritraumatic distress. Thus, it seems that feeling one’s aging process is slower is a potential resource that can render one more immune to effects of worries (see Figure 1). It may be that the term of accelerated aging is oversensitive to physical health worries due to the health risk involved. Moreover, peritraumatic distress was not associated with any vulnerability measures of the COVID-19 pandemic (i.e., chronological age, chronic disease, exposure to COVID-19 stressors), but rather only to the subjective measure of subjective accelerated aging. This finding coincides with previous studies that revealed that older chronological age is not associated with worse mental health outcomes during the COVID-19 pandemic (e.g., Pieh et al., 2020). In this light, the present study highlights the effect that subjective accelerating aging and excessive worrying may have on mental health outcomes in the older population during a pandemic (see Figure 1).

The study has several limitations. First, it used a cross-sectional design, therefore, causality cannot be inferred from the current findings. Second, the study sample was based on an online
design, and may be biased towards older adults with technological knowledge. Third, there was no measurement of pre-pandemic levels of health worries or levels of PTSD symptoms (the participates were asked to report their level of health worries and peritraumatic symptoms since the COVID-19 outbreak). Fourth, COVID-19 health worries were assessed by a scale that was previously published (Bergman et al., 2020, Grossman et al., 2020; Ring et al., 2020), nevertheless this measure is not standardized. Future studies should use standardized measures (e.g., Ahorsu et al., 2020; Bitan et al., 2020; Lee, 2020; Taylor et al., 2020). Finally, similar to other views of aging, (e.g., distance to death, subjective age) accelerated aging is also a single item. Future studies may focus on unpacking this concept into further potential domains.

Conclusions

The present study is the first to examine the concept of subjective accelerated aging and its relationship with peritraumatic distress during the COVID-19 pandemic among older adults. The findings have theoretical and practical implications for the prevention of peritraumatic distress during the COVID-19 pandemic, as well as other natural disasters.

Theoretically, the findings rejoin earlier results reviewed above and further demonstrate that similar to biological process of accelerated aging, there appears to be a psychological process by which individuals assess the rate of their aging, which seems to be linked with psychiatric symptoms. It may be that the sense of accelerated aging reciprocally over-focusses on physical health worries due to the health risk involved. We recommend future studies to examine the directionality of this relationship and its contribution to mental health. We also recommend that future prospective studies investigate the mechanisms connecting subjective and objective measures of accelerated aging. In addition, as noted by Palgi (2020), the concept of subjective accelerated aging appears to be an integrated part of the concept of subjective views of aging.
(Wurm et al., 2017) and these findings demonstrate its utility as an additional aspect of this concept.

On a practical level, the rise in health worries since the COVID-19 outbreak is understandable (Kobayashi et al., 2020), therefore, the findings in the current study offer preliminary support for the potential relevance of suitable interventions during the COVID-19 pandemic that are aimed at reducing health worries. In particular, the findings underscore the importance of identifying health worries among older adults, and more so among those who experience subjective accelerated aging in the face of the COVID-19 pandemic. The combination of health worries together with subjective accelerated aging pinpoints a group at higher risk for developing increased levels of peritraumatic distress symptoms. Preventative interventions for adverse psychological effects can be implemented among this group. Finally, another potential approach is to focus on the subjective feeling of accelerated aging, the development of suitable interventions for promoting the feeling of aging in a less accelerated fashion should be promising for older adults during stressful life events.

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Conflicts of Interest: None

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.
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Table 1. *Descriptive Statistics for the Study Variables (N = 277)*

|                      | M/SD | 1 | 2   | 3   | 4   | 5   | 6   | 7 | 8 | 9 |
|----------------------|------|---|-----|-----|-----|-----|-----|---|---|---|
| 1. Age               | 69.58| 6.73| -   |     |     |     |     |   |   |   |
| 2. Gender<sup>a</sup> | 69.0%| -  | -.13<sup>*</sup>| -   |     |     |     |   |   |   |
| 3. Marital status<sup>b</sup> | 73.6%| -  | -.06| -.22<sup>***</sup>| -   |     |     |   |   |   |
| 4. Education         | 5.56 | 0.86| -.12<sup>*</sup>| .09 | .06 | -   |     |   |   |   |
| 5. Self-rated health | 3.71 | 0.93| -.23<sup>***</sup>| .20<sup>**</sup>| -.02| .21<sup>***</sup>| -   |   |   |   |
| 6. Chronic diseases<sup>c</sup> | 42.9%| .25<sup>***</sup>| -.23<sup>***</sup>| -.03| -.16<sup>*</sup>| -.51<sup>***</sup>| -   |   |   |   |
| 7. Exposure to COVID-19 | 1.20 | 1.05| -.11| .01 | .03 | -.00| .12<sup>*</sup>| -.03| - |   |
| 8. COVID-19 Health worries | 2.98 | 0.90| -.12| -.05| .06 | -.15<sup>*</sup>| -.20<sup>**</sup>| .01 | .00| - |
| 9. Subjective accelerated aging | 2.31 | 0.90| .06 | -.06| .02 | -.18<sup>**</sup>| -.24<sup>***</sup>| .13<sup>*</sup>| .08 | .15<sup>*</sup>| - |
| 10. Peritraumatic Distress | 9.46 | 6.51| -.10| .13<sup>*</sup>| -.04| -.20<sup>**</sup>| -.13<sup>*</sup>| -.05| -.01| .40<sup>***</sup>| .38<sup>***</sup>| - |

<sup>a</sup>=women, <sup>b</sup>=Married or living with partner, <sup>c</sup>=Has chronic diseases

<sup>*</sup>p<.05, <sup>**</sup>p<.01, <sup>***</sup>p<.001
Table 2. Summary of the Moderation Model for Variables Predicting Peritraumatic Distress among Older Adult ($N = 277$)

|                      | $\Delta R^2$ | B    | $\beta$ | t    | $P$    |
|----------------------|--------------|------|---------|------|--------|
| **Step 1**           | 0.092***     |      |         |      |        |
| Age                  | -0.14        | -0.140 | -2.11   | 0.036 |
| Gender               | 1.59         | 0.108 | 1.56    | 0.119 |
| Education            | -1.58        | -0.212 | -3.18   | 0.002 |
| Self-rated health    | -1.03        | -0.136 | -2.08   | 0.039 |
| Marital status       | -0.53        | -0.036 | -0.53   | 0.596 |
| **Step 2**           | 0.023        |      |         |      |        |
| Chronic diseases     | -2.42        | -0.179 | -2.37   | 0.019 |
| Exposure to COVID-19 | -0.112       | -0.018 | -0.29   | 0.774 |
| **Step 3**           | 0.212***     |      |         |      |        |
| Subjective accelerated aging | 2.245 | 0.301 | 5.13 | <.001 |
| COVID-19 health worries | 2.530 | 0.345 | 5.88 | <.001 |
| **Step 4**           | 0.77***      |      |         |      |        |
| COVID-19 health worries $\times$ Subjective accelerated aging | 2.186 | 0.299 | 5.30 | <.001 |
| **Total**            | 0.404***     |      |         |      |        |

*Note: Gender (dummy): 1- male, 2- female

*p<.05, **p<.01, ***p<.001
Figure 1: The moderating effect of subjective accelerated aging on the association between health worries and peritraumatic distress