Zhao Yiming (Orcid ID: 0000-0001-8639-2997)

# Existential isolation and prolonged grief in bereaved people: The moderating role of culture

**Running title: Existential isolation and prolonged grief**

Ningning Zhou[1,#], Yiming Zhao[1,#], Kirsten V. Smith[2], Clare Killikelly[3], Eva Stelzer[4], Andreas Maercker[5], Juzhe Xi[1], Peter J. Helm[6]

[1] Shanghai Key Laboratory of Mental Health and Psychological Crisis Intervention, Affiliated Mental Health Center (ECNU), School of Psychology and Cognitive Science, East China Normal University, Shanghai, China

[2] Centre for Anxiety Disorders and Trauma, Department of Experimental Psychology, University of Oxford, Oxford, United Kingdom

[3] Department of Psychiatry, University of British Columbia

[4] Department of Psychology, University of Arizona, Tucson, Arizona, USA

[5] Department of Psychology, University of Zürich, Zürich, Switzerland

[6] Department of Psychological Sciences, University of Missouri-Columbia, Columbia, Missouri, USA

[#] Ningning Zhou and Yiming Zhao contributed equally to the study.

Corresponding Author:

Ningning Zhou, email: nnzhou@psy.ecnu.edu.cn, Shanghai Key Laboratory of Mental Health and Psychological Crisis Intervention, Affiliated Mental Health Center (ECNU), School of Psychology and Cognitive Science, East China Normal University, 200062, No.3663 Zhongshanbei Road, Putuo District, Shanghai, China

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Juzhe Xi, email: jzxi@psy.ecnu.edu.cn, Shanghai Key Laboratory of Mental Health and Psychological Crisis Intervention, Affiliated Mental Health Center (ECNU), School of Psychology and Cognitive Science, East China Normal University, 200062, No.3663 Zhongshanbei Road, Putuo District, Shanghai, China

**Data availability statement**

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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**Declaration of interest statement**

No potential conflict of interest was reported by the authors.

**Abstract**

**Objective**

Existential isolation refers to an individual's awareness of the unbridgeable gulf between oneself, other people, and the world. This kind of isolation has been found to be higher in individuals with nonnormative experiences, such as racial or sexual minorities. Bereaved individuals may experience a stronger sense of existential isolation and feel that no one shares their feelings or perceptions. However, research on bereaved people's experiences of existential isolation and its effects on post-loss adaptation is scarce. This study aims to validate the German and Chinese versions of the Existential Isolation Scale, investigate cultural and gender differences in existential isolation, and explore the associations between

existential isolation and prolonged grief symptoms in German-speaking and Chinese bereaved individuals.

**Methods**

A cross-sectional study with 267 Chinese and 158 German-speaking bereaved participants was conducted. The participants completed self-report questionnaires assessing existential isolation, prolonged grief symptoms, social networks, loneliness, and social acknowledgment.

**Results**

The results indicated that the German and Chinese versions of the Existential Isolation Scale demonstrated adequate validity and reliability. No cultural or gender differences (or their interaction) were found for existential isolation. Higher existential isolation was associated with elevated prolonged grief symptoms, which was further moderated by the cultural group. The relationship between existential isolation and prolonged grief symptoms was significant for the German-speaking bereaved people but not significant for those from China.

**Conclusion**

The findings highlight the role of existential isolation in the adaptation to bereavement and how different cultural backgrounds moderate the effect of existential isolation on post-loss reactions. Theoretical and practical implications are discussed.

**Keywords** existential isolation, cross-culture, prolonged grief

**Key Practitioner Implications**

- This study suggests that existential psychotherapies may facilitate recovery from grief.
- This study suggests that cultural background should be considered when providing interventions for bereaved people.
- This study suggests that intervening in existential isolation may benefit German-speaking bereaved people.

## Background

Grief is the emotional and physical reaction that people experience after losing a significant other (Bonanno, 2001). Common grief reactions include yearning/longing, preoccupation, sorrow, guilt, anger, and blame (Bonanno, 2001). For most bereaved people, grief reactions do not cause prolonged impairments. They can recover from grief, engage in positive activities, and reconnect with families and friends (Jordan & Litz, 2014). However, for some people, the reactions are more severe and persistent, giving rise to pathological grief symptoms, which can be conceptualized as prolonged grief disorder (PGD). A previous meta-analysis reported that 9.8% of bereaved people experience PGD after natural losses (Lundorff et al., 2017). PGD is a newly added mental disorder in the International Classification of Diseases, 11th edition (ICD-11), and in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) (American Psychiatric Associates, 2020; World Health Organization, 2021). According to the diagnostic guidelines of ICD-11 (World Health Organization, 2021),the core symptoms of PGD are pervasive longing for the deceased and persistent preoccupation with the deceased. Accessory symptoms include intense emotional distress, such as difficulty accepting the death, losing a part of oneself, inability to experience happiness, sorrow, guilt, blame, anger, numbness, avoiding reminders, and difficulty engaging in previously joyful activities (World Health Organization, 2021). The diagnosis of PGD requires at least one core symptom, at least one accessory symptom, functional impairments, and a bereavement length of over six months (World Health Organization, 2021). Previous studies have found that prolonged grief symptoms are associated with an increased risk of suicidality, inferior quality of life, and chronic physical illnesses (Boelen & Prigerson, 2007; Latham & Prigerson, 2004; Prigerson et al., 1997; Stroebe et al., 2017). Therefore, reducing bereaved people's prolonged grief symptoms is worth examining.

### *Existential isolation*

Yalom (1980) first proposed the concept of existential isolation and stated that it differs from loneliness or social isolation. Loneliness refers to the distressing feeling associated with the discrepancy between one's desired and actual relationships (Peplau & Perlman, 1982; Yalom, 1980), while existential isolation involves an awareness of the unbridgeable gulf between oneself, other people, and the world (Yalom, 1980). When a person experiences existential isolation, they feel alone in their subjective experiences, as though other people do not share or cannot understand their perspectives (Helm, Greenberg, et al., 2019; Helm, Lifshin, et al., 2019; Pinel et al., 2017). A commonly used instrument for measuring existential isolation is the Existential Isolation Scale (Pinel et al., 2017). This scale consists of 6 items. Existing studies have demonstrated good one-factor constructive validity and internal consistency reliability across samples from different cultures (Park & Pinel, 2020; Pinel et al., 2017). The scale was found to have adequate convergent and discriminant validity via positive yet moderate correlations with other measures assessing separation, such as alienation, introversion, and loneliness (Pinel et al., 2017).

### *Existential isolation and culture*

People's perceptions of themselves and their interpersonal relationships vary greatly across cultural orientations. According to Hofstede (2001), an individualistic culture is characterized by autonomy and personal goals. People with this cultural orientation tend to have an independent self-construal and value the needs of individuals above the needs of their groups. Those with an independent self-construal tend to orient themselves relative to their

personal thoughts, feelings, and actions (Markus & Kitayama, 1991; Markus & Kitayama, 2010). Conversely, collectivistic cultures emphasize in-group interests and interpersonal harmony over the requirements and preferences of individuals. People with this cultural orientation tend to have interdependent self-construal and are more sensitive to others' feelings and behaviors (Kanagawa et al., 2001; Markus & Kitayama, 1991). Those with interdependent orientations tend to organize themselves relative to the thoughts, feelings, and actions of close others (Markus & Kitayama, 1991; 2010).

The experience of existential isolation may be influenced by cultural orientation. Different cultural orientations have various assumptions about the extent to which internal feelings can be shared. For people from individualistic societies, inner experiences may be personal and belong to themselves,but for those from collective societies,internal experiences can be shared by others (Markus & Kitayama, 1991). Charmaz and Milligan (2006) point out that individualism in Western cultures prevents people from realizing the meaning of an intimate relationship and results in a heightened sense of isolation. Therefore, theoretically, individuals with an independent self-construal should be more likely to experience increased existential isolation. Empirical studies have found existential isolation to be negatively associated with stronger collectivistic values and more communal values (Helm et al., 2018; Park & Pinel, 2020). Additionally, the consistent gender differences observed in existing studies wherein men experienced higher levels of existential isolation than women could also be explained by the lower acceptance of communal values (Helm et al., 2018) and less interdependent self-construal (Park & Pinel, 2020) compared to women (Helm et al., 2018). However, the above studies were only conducted in one Eastern and one Western country, and repetitive studies from a broader range of countries are required to verify and generalize the findings (Park & Pinel, 2020). Therefore, in the current study, one aim was to replicate previous

cross-cultural research conducted in South Korea and the U.S. (Park & Pinel, 2020) and to test the influence of cultural orientation on existential isolation. We hypothesize that existential isolation will be higher for people from the individualistic culture (i.e., German-speaking countries) than for those from the collectivistic culture (i.e., China) (Hypothesis 1a) and higher for males than females (Hypothesis 1b). Furthermore, we expect an interaction effect in that the gender difference should occur only for participants from the individualistic culture (i.e., the German-speaking sample), replicating the study by Park and Pinel (2020) (Hypothesis 1c).

### *Existential isolation, culture, and prolonged grief*

Research and theory suggest that existential isolation can be experienced as a momentary state-like feeling or as a persistent chronic awareness (Helm, Greenberg, et al., 2019). Given that humans develop and maintain systems of meaning via shared social reality (Arndt et al., 2013; Berger & Luckmann, 1966; Echterhoff et al., 2009; Swann et al., 1992), existential isolation can be problematic for maintaining a sense of meaning and certainty about the social world (Albinsson & Strang, 2003). Chronic and persistent feelings of existential isolation have been found to be associated with psychological distress, including depression, anxiety, self-concealment, aggression, lower self-esteem, suicidal ideation, and concerns about death (Constantino et al., 2019; Helm, Lifshin, et al., 2019; Helm et al., 2020).

Individuals with nonnormative experiences, such as racial or sexual minorities and student military veterans, tend to report elevated existential isolation compared to their majority group counterparts (Pinel et al., 2021). As a minority group, bereaved people may also experience enhanced existential isolation. For example, in Chan and Chan (2011), bereaved individuals who lost their spouse reported no desire to say anything and felt no one

could hear them, thus presumably experiencing a strong sense of existential isolation. Some bereaved mothers, who have experienced a traumatic death, have described feeling that they are on an island by themselves and that no one else, even other traumatically bereaved parents, could understand or even relate to that (Harris, 2020). Thus, loss and bereavement may be a precursor to experiencing existential isolation. However, people with higher levels of existential isolation prior to a loss event may experience a more intense sense of bewilderment when faced with overwhelming grief and may present more severe post-loss reactions than those with lower existential isolation (Charmaz & Milligan, 2006). Additionally, potentially influenced by increased existential isolation, bereaved people may hold more negative beliefs about social interaction and the helpfulness of psychological interventions, which may impede them from obtaining adequate support (Constantino et al., 2019; Pinel et al., 2017). However, no research has investigated how bereaved people experience existential isolation or how existential isolation is related to prolonged grief symptoms. We predict that existential isolation will positively correlate with prolonged grief symptoms (Hypothesis 2).

Furthermore, although a growing body of literature addresses the influence of culture on existential isolation, the various consequences of existential isolation across different cultural norms have not yet been examined. Research has demonstrated that cultural orientation can have buffering effects on related constructs such as social exclusion. For example, people from collectivistic cultures such as Turkey and China were affected less in response to social exclusion than those from individualistic cultures such as Germany in terms of psychological need fulfillment (Pfundmair, Aydin, et al., 2015). Those from collectivistic cultures also showed no change in heart rate during social exclusion, while those from individualistic cultures demonstrated increased heart rates when experiencing social exclusion

(Pfundmair, Aydin, et al., 2015). Additionally, people from cultures with individualistic orientations exhibited more negative moods and antisocial behavioral intentions during the experience of social exclusion (Pfundmair, Graupmann, et al., 2015). It is possible that in collectivistic cultures, where the self is defined by the connection with others, social exclusion is not perceived to be as threatening as it does not impact the core self, which at least partially exists via other relationships (Pfundmair, Aydin, et al., 2015; Pfundmair, Graupmann, et al., 2015). Conversely, for people from individualistic cultures, whose selves are defined only by personal traits, social exclusion may imply a rejection of their core self, and thus, they are more likely to adopt negative coping strategies in such circumstances (Williams, 2004). In sum, collectivists exhibit more resilience when dealing with threats to individual belonging, such as social exclusion. Regarding existential isolation, researchers have argued that collectivity may protect people from the negative consequences associated with existentially isolating experiences (Park & Pinel, 2020; Pinel et al., 2021), although this claim needs further exploration. Therefore, to address this gap in the literature, we examined the effect of the interaction between existential isolation and culture on prolonged grief adaptation. We hypothesize that existential isolation will be positively associated with prolonged grief symptoms in the German-speaking sample, while this relationship may be weaker or nonsignificant in the Chinese sample (Hypothesis 3).

In sum, we aimed to validate the German and Chinese versions of the Existential Isolation Scale, assess the impact of culture and gender on existential isolation, and explore the relationship between existential isolation and prolonged grief symptoms in bereaved participants from two distinct cultures.

## Methods

### *Participants and procedures*

This survey is part of a larger project (i.e., Measurement and Assessment of Prolonged Grief Disorder in China and Switzerland). The study received ethical approval from the University of Zurich, Switzerland, and the Beijing Normal University, China. The participants needed to meet the following criteria: be adults older than 18 years old, have experienced the death of a loved one between six months and ten years ago, have no diagnosis of severe psychiatric disorders (e.g., active psychosis, major depression disorder, suicidal tendency), and not participate in psychiatric or psychological therapy. The participants were recruited through online advertisements and offline groups. See Stelzer et al. (2020) and Killikelly et al. (2020) for a detailed description of the recruitment procedure. The Chinese participants completed a Chinese version of the survey,and the German-speaking participants completed a German version of the survey. All the English language questionnaires followed a standard translation-back-translation process into German and Chinese.

A total of 431 participants met the inclusion and exclusion criteria listed above, and six were excluded for not completing the questionnaire assessing existential isolation. The demographic information included the following: 113 males, 308 females, 4 missing; ages ranging from 18 to 77 years, *M*=34.24, *SD*=13.75. Of all the participants, 267 resided in China (87 males, 176 females, 4 missing; ages ranging from 18 to 70 years, *M*=32.50, *SD*=12.01) and 158 resided in Switzerland (26 males, 132 females; ages ranging from 18 to 77 years; *M*=36.96, *SD*=15.91). Detailed demographic and loss-related information is presented in Table 1.

*Measures*

**Existential isolation** The original Existential Isolation Scale is a 6-item self-report measure, with higher scores indicating a stronger sense of existential isolation (Pinel et al., 2017). A sample item is "People do not often share my perspective." The participants responded on a seven-point scale ranging from 1 (totally disagree) to 7 (totally agree). The scale has robust convergent and discriminant validities (Park & Pinel, 2020; Pinel et al., 2017). Please see Supplementary 1 for the Chinese and German-speaking versions of the Existential Isolation Scale.

**Prolonged grief symptoms** We used the German and Chinese versions of the 13-item International Prolonged Grief Disorder Scale (IPGDS) to measure prolonged grief severity (Killikelly et al., 2020). This measurement aligns with the diagnostic system of ICD-11 (World Health Organization, 2021). Participants respond using a five-point Likert scale ranging from 1 (not at all) to 5 (always). Higher scores indicate more severe prolonged grief reactions. The validity and reliability of the IPGDS have been tested in German-speaking and Chinese bereaved samples (Killikelly et al., 2020). The scale had excellent internal consistency reliability in the German-speaking ($\alpha$ =.92) and Chinese samples ($\alpha$ =.93). Thus, we also presented the results obtained from the IPGDS total, which included all the standard and culturally specific grief symptoms. In the current study, the IPGDS total had good internal consistency reliability (German-speaking: $\alpha$ =.96; Chinese samples: $\alpha$ =.97). However, unlike the 13 core items, which have been applied in some studies (Chen & Tang, 2021; Killikelly et al., 2021; Lenferink et al., 2022; Tang & Xiang, 2021; Zhou et al., 2022), culturally specific items have not been used widely. We must be cautious when interpreting the results.

**Social acknowledgment scale** The scale was first developed by Maercker and Miiller (2004) to assess an individual's recognition as a trauma survivor and the perceived acknowledgment by the social context and acquaintances. The scale is closely related to interpersonal connection or belonging. There are three dimensions with 16 items, including general approval, family approval, and other acquaintances' approval. In the current study, only family and other acquaintances' acknowledgment was retained. A 4-point Likert scoring system was employed (0 = not at all; 3 = completely). The total scores range from 0 to 30, with higher scores indicating more acknowledgment. Internal consistent reliability was adequate for the two samples (German-speaking sample: $\alpha$ =.83; Chinese sample: $\alpha$ =.73).

**Social network index** The structure of a person's social network was assessed by calculating the number of social network members (Cohen, 2015; Cohen et al., 1997). The current study focused on the four types of social relationships: partner, relatives, friends, and other people. For the latter three relationships, the participants reported having up to seven people with whom they had contact at least once every two weeks. The total number of all four types of relationships was calculated to represent the social network size or the structural component of social support.

**Loneliness** We measured interpersonal isolation using one item assessing loneliness: "Since he or she left, I feel lonely," which was scored on a 5-point Likert scale (1 = not at all, 5 = very much). Some studies have also used the item "I feel lonely" to assess loneliness (Alwan et al., 2011; DeWall & Pond Jr, 2011; Malta et al., 2014; Page et al., 2011). The results are comparable to those using multiple items (Dyal et al., 2015). Therefore, we believe it is reasonable to use one item to assess loneliness.

***Data analysis***

The missing values were less than 0.1%,and the missing data for each case were less than 1%. They were imputed using the average value of each scale. Descriptive statistics of each variable were presented as the mean, standard deviation, N, and percentage.

We conducted confirmatory factor analyses (CFAs) to verify the one-factor model of the German and Chinese versions of the Existential Isolation Scale. Modification indices were used to determine whether minor adjustments were required to generate a better model fit. We performed multigroup CFAs to test the model equivalence across groups. Cronbach's α coefficients were calculated to test the internal consistency reliability. The correlation coefficients between existential isolation and social acknowledgment, social network index, and loneliness were calculated to examine the criterion validity.

Analyses of variance (ANOVAs) and analyses of covariance (ANCOVAs) were performed to investigate the effects of the cultural group, gender, and the interaction term between them on existential isolation. A t test was conducted to compare the means of our samples with those of the general population reported in the articles by Helm et al. (2018) and Park and Pinel (2020).

Regression analysis was performed to examine the effects of existential isolation, cultural group, and their interaction term on prolonged grief symptoms when controlling for gender, age, educational background, kinship, and cause of death.

The Mplus 8.0 version was used to conduct the CFAs. The IBM SPSS 26.0 software package was used to perform the remaining data analyses.

## Results

### *The validity and reliability of the German-speaking and Chinese Existential Isolation Scale*

The initial CFAs showed that the goodness of fit indexes were not satisfactory. Consistent with Park and Pinel's (2020) study, there was a high modification indices between item 4 and item 5, which was likely caused by the correlated errors related to the negatively worded characteristics of the two items (Brown, 2015). Therefore, we correlated the residual covariance between these two items and retested the model. The results revealed adequate model fit in the German-speaking and Chinese samples separately. Multigroup CFAs demonstrated that the scale showed partially strong measurement invariance across the two groups. Please see Supplementary 2 for detailed information.

The Cronbach's α coefficients were .88 in the German-speaking sample and .78 in the Chinese sample. The internal consistency of the German and Chinese versions of the Existential Isolation Scale was comparable to that of the original English and Korean versions (α =.78 and α =.77) (Park & Pinel, 2020; Pinel et al., 2017).

Then, we tested the criterion validity. For the German-speaking and Chinese samples separately, existential isolation was negatively related to the number of social network members (German-speaking: $r$ = -.27, $p$ <.01; Chinese: $r$ = -.15, $p$ <.05) and social acknowledgment (German-speaking: $r$ = -.45, $p$ <.001; Chinese: $r$ = -.28, $p$ <.001), consistent with Park and Pinel's (2020) results. The positive correlation between existential isolation and

loneliness was found only in the German-speaking bereaved sample (German-speaking: $r$ =.28, $p$ <.01; Chinese: $r$ =.04, $p$ >.05).

### *Cultural group and gender differences in existential isolation*

We compared existential isolation as a function of cultural groups and gender. Means and standard deviations for existential isolation by gender and cultural group are displayed in Table 2.

We tested our hypotheses by conducting ANOVAs and ANCOVAs. Without controlling variables, the main effect of the cultural group was nonsignificant, $F(1, 417) = 0.74$, $p$ =.39, $\eta_p^2$ =.002. The main effect of gender was nonsignificant, $F(1, 417) = 0.04$, $p$ =.95, $\eta_p^2$ =.000. The interaction effect between cultural group and gender was nonsignificant, $F(1, 417) = 1.99$, $p$ =.16, $\eta_p^2$ =.005. After including the controlling variables, including age, gender, educational background, kinship, and cause of death, the main effect of the cultural group was nonsignificant, $F(1, 413) = 0.58$, $p$ =.45, $\eta_p^2$ =.001. The main effect of gender was nonsignificant, $F(1, 413) = 0.02$, $p$ =.89, $\eta_p^2$ =.000. The interaction effect between cultural group and gender was nonsignificant, $F(1, 413) = 1.74$, $p$ =.19, $\eta_p^2$ =.004.

We also conducted comparisons of the scores of our samples with those of the general population in previous studies (American males: $M$ = 3.89, $SD$ = 1.01; American females: $M$ = 3.54, $SD$ = 1.00; Korean males: $M$ = 2.79, $SD$ = 0.92, Korean females: $M$ = 2.68, $SD$ = 0.77) (Helm et al., 2018; Park & Pinel, 2020). The results showed that the existential isolation scores in our samples tended to be higher than those in the general population (American males: $p$ =.88; American females: $p$ =.09; Korean males: $p$ <.001; Korean females: $p$ <.001).

***The relationship between existential isolation and prolonged grief symptoms: The moderating role of cultural groups***

Table 3 summarizes the hierarchical regression models used to test Hypotheses 2 and 3. Together, the variables included in the models explained 31.1%, $F(8, 412) = 24.55$, $p < .001$. It was found that existential isolation was significantly associated with prolonged grief symptoms, supporting Hypothesis 2. The cultural group was significantly associated with prolonged grief symptoms. There was a significant interaction between existential isolation and the cultural group, supporting Hypothesis 3.

Figure 1 depicts the interaction effect between existential isolation and cultural group. As expected, the positive association between existential isolation and prolonged grief symptoms was significant for German-speaking bereaved people ($B = 3.07$, $SE = 0.68$, $\beta = .32$, $t = 4.51$, $p < .001$) but not significant for Chinese bereaved people ($B = 0.98$, $SE = 0.65$, $\beta = .13$, $t = 1.51$, $p = .13$).

In Table 3, we present the results by using the IPGDS total as the dependent variable. There was no significant interaction between existential isolation and the cultural group. However, the association coefficient between existential isolation and grief symptoms was significantly higher for the German-speaking bereaved people ($r = .35$, $p < .001$) than for their Chinese counterparts ($r = .14$, $p = .02$). The difference was significant ($z = 2.11$, $p = 0.04$).

## Discussion

The present study validated the German and Chinese versions of the Existential Isolation Scale and investigated the relationship between existential isolation and prolonged grief symptoms in two cross-cultural samples of German-speaking and Chinese bereaved individuals. We expected the German-speaking participants to report higher existential isolation than the Chinese participants and males to report higher existential isolation than females, although no significant differences were found. Furthermore, we expected but failed to find an interaction between cultural group and gender. These results contradict Hypotheses 1a, 1b, and 1c. Existential isolation was positively associated with prolonged grief symptoms, and cultural groups moderated this relationship, supporting Hypotheses 2 and 3. Among the German-speaking participants, existential isolation was significantly correlated with elevated prolonged grief symptoms,whereas for the Chinese bereaved individuals, this correlation was not significant.

The current study created and validated German and Chinese versions of the Existential Isolation Scale, assessed in samples of bereaved individuals. It can be concluded that the construct of the German and Chinese versions of the Existential Isolation Scale is conceptualized in the same way as the South Korean and U.S. samples. The scale also showed partially strong invariance across the two cultural groups. Regarding criterion validity, the German and Chinese versions of the Existential Isolation Scale had low to moderate correlations with tools assessing interpersonal connection or isolation, demonstrating acceptable criterion validity. However, the criterion measurement tools were limited in the current study, and further research employing more criterion questionnaires is needed to verify the discriminant and convergent validities of the scale. Overall, the Existential Isolation Scale

in the current samples exhibited adequate structural validity, internal consistency reliability, and criterion validity. The results indicate that existential isolation is conceptualized similarly in different countries and that the Existential Isolation Scale is a reliable and valid instrument for measuring existential isolation in different groups from various cultural backgrounds.

Noticeably, we did not find a significant difference in existential isolation between the German-speaking and Chinese bereaved samples or between males and females. These findings contrast with those of previous studies, which found that people in individualistic cultures experienced more existential isolation than those from collectivistic cultures and that males reported more existential isolation than females in America but not in South Korea (Park & Pinel, 2020; Pinel et al., 2017). It is possible that the bereavement experience increases the sense of existential isolation and thus dilutes the effects of culture and gender. Indeed, the Existential Isolation Scale's average scores in our sample were higher than those in the general population except in the male groups from individualistic countries (i.e., American and German-speaking countries such as Switzerland). It seems that bereavement experiences are likely to enhance the levels of existential isolation, particularly for the participants from collectivistic countries. Future research can further examine the influence of bereavement experiences on existential isolation by recruiting participants from the same country or tracing the change in existential isolation before and after bereavement.

Bereaved people with high existential isolation were at higher risk of prolonged grief reactions. This result supports Hypothesis 2 and aligns with previous studies that demonstrated positive correlations between existential isolation and psychological distress, such as depression, anxiety, and suicidal ideation, in the general population (Hayes et al., 2010; Pinel et al., 2017). Usually, one's sense of reality is built on social interaction (Arndt et al., 2013),

through which people understand who they are and how they exist, which facilitates the construction of their self-concept. However, individuals with higher existential isolation feel alone in their experiences, making them vulnerable to other existential problems (Yalom, 1980). For people with high levels of existential isolation, bereavement experiences may exaggerate their existential uncertainty, such as difficulty in finding a new way of existing in an unfamiliar world, socializing with family members or friends as usual or reconstructing their sense of self-identity in society (Landsman, 2002; Liu & Slack, 2014). These existential challenges further impede their post-loss adaptation. Furthermore, individuals with high existential isolation may regard themselves as independent and keep a distance from others (Pinel et al., 2021), preventing them from acquiring the necessary resources to alleviate their prolonged grief reactions. Although previous research has reported the existential isolation phenomenon among bereaved people (Chan & Chan, 2011; Harris, 2020), no studies have empirically tested its impact. As a preliminary study, the current research provides initial evidence for the potential influence of existential isolation on prolonged grief symptoms.

The moderating role of the cultural group supports Hypothesis 3. We found that the adverse outcomes of existential isolation were evident in the German-speaking bereaved sample, whereas in China, the effect was nonsignificant. One interpretation of this finding supports the buffering effect of interdependent cultures, suggesting that collectivity can protect bereaved people from the negative consequences associated with existential isolation (Park & Pinel, 2020). As noted, people from collectivistic cultures (e.g., Turkey, China) were less affected by social exclusion than those from individualistic cultures (e.g., Germany) (Pfundmair, Aydin, et al., 2015). For bereaved people in a collective culture, losing a significant other impacts the whole family (Cao et al., 2013). Grief is more like a group-shared emotion. This shared grief experience may facilitate internal connection and understanding.

Even when an individual in a collective culture has a higher level of existential isolation, the deep-rooted interdependence and collective values may elicit an utter internal connection with other family members and help in coping with loss. Conversely, among those in an individualistic context (i.e., German-speaking bereaved people) where prolonged grief is less likely to be treated as a shared experience, one's existential isolation positively significantly correlated with prolonged grief severity. It should be noted that the results obtained from using the IPGDS total as the dependent outcome did not support Hypothesis 3, although the cultural group difference in the correlation coefficients between existential isolation and prolonged grief symptoms was significant. The results may be due to the measurement tool. To date, the standard 13-item IPGDS has been used in a number of studies (Chen & Tang, 2021; Killikelly et al., 2021; Lenferink et al., 2022; Tang & Xiang, 2021; Zhou et al., 2022), but the IPGDS total, including the cultural supplement, has not. It is possible that the cultural supplement assesses other symptoms unrelated to prolonged grief. Another reason may be the sample characteristics. Although the interaction effect between existential isolation and cultural group on grief symptoms was nonsignificant, the correlation coefficients between existential isolation and grief symptoms showed a cultural group difference. There seems to be a tendency toward an interaction effect. Considering that most of the participants in the sample were female and the proportion of violent deaths was low, we can suspect that the effect could be significant if the sample was more diverse.

### *Limitations and future research*

This study has some limitations. First,the present study is cross-sectional. We cannot make conclusions about the direction of the relationship (Cole & Maxwell, 2003). It is possible that increased existential isolation may result from more severe prolonged grief symptoms.

Future longitudinal studies may clarify this issue by employing a longitudinal design. Second, differences between cultural groups in aspects such as sociodemographic information and loss-related variables may confound the relationship between existential isolation and prolonged grief symptoms. Third, the two samples are not representative. For example, the Chinese sample mainly consisted of young and highly educated people, which may mean that the results cannot be generalized to a broader Chinese sample. The German sample was primarily female, which may impact the gender effect of existential isolation. Additionally, the cultural groups are not representative of all individualistic and collectivistic cultures, although both are typical. Future studies containing large-scale samples in more countries from individualistic and collectivistic cultures are required to verify the role of culture.

Future research is needed to better understand the nature of the interaction found in the present study. Qualitative designs could explore the subjective experiences of bereaved individuals from different cultural backgrounds to further elaborate on the cross-cultural differences concerning the effect of existential isolation on bereavement adjustment. Notably, the nonsignificant positive relationship between existential isolation and prolonged grief reactions in the Chinese sample contradicts previous research conducted in the general population from another collective country (i.e., South Korea), which showed that existential isolation was positively related to anxiety, depression, and stress (Helm et al., 2020). This may also reflect a bereavement experience effect. Perhaps in the context of bereavement, the buffer effect of collectivistic values is strong enough to confront the negative influence of existential isolation on post-loss adaptation. However, further research is needed to verify these findings.

### *Clinical implications*

The results contribute to grief research by providing clinical implications that reducing levels of existential isolation may help alleviate prolonged grief symptoms. After bereavement, interventions such as existential psychotherapies (e.g., supportive-expressive psychotherapy, cognitive-existential psychotherapy, existential behavioral therapy, meaning-centered psychotherapy), which aim to solve existential concerns such as death, freedom, existential isolation, and meaninglessness, relevant to losing a loved one, may help bereaved individuals be more resilient (Anderson, 2015; Breitbart, 2017; Kögler et al., 2013; Maria Steffen, 2019). Moreover, cultural background should be considered when offering psychological interventions to bereaved people. Individuals with different backgrounds may benefit differently from the same intervention strategy. For the German-speaking sample in particular, their reactions to grief are more sensitive to how they believe they are existentially isolated. Thus, interventions targeted at decreasing existential isolation are recommended for German-speaking bereaved people. For the Chinese people, however, emphasizing decreasing existential isolation may not benefit their post-loss adaptation. Efforts should be directed toward other aspects to which Chinese people are more vulnerable.

## Conclusions

This study is the first to examine existential isolation in German-speaking and Chinese samples and the first to explore the relationship between existential isolation and prolonged grief among bereaved people. The findings advance existential isolation and grief research by suggesting that bereavement experiences may increase existential isolation and dilute the

cultural and gender effects on existential isolation. Lowering existential isolation may effectively reduce prolonged grief severity for bereaved people from individualistic cultures.

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Table 1 Descriptive statistics for sociodemographic and loss-related information in the German-speaking and Chinese samples.

| Variable | German-speaking sample (n = 158) | | Chinese sample (n = 267) | | Total sample (N = 425) | | Difference test |
|---|---|---|---|---|---|---|---|
| | M/n | SD/% | M/n | SD/% | M/n | SD/% | Two-samples t test or $\chi 2$ test |
| Age (in years) [a] | 36.91 | 15.94 | 32.60 | 12.01 | 34.22 | 13.77 | $p = .002$ |
| Gender [a] | | | | | | | $p < .001$ |
| Male | 26 | 16.5% | 87 | 32.6% | 113 | 26.6% | |
| Female | 132 | 83.5% | 176 | 65.9% | 308 | 72.5% | |
| Missing | 0 | | 4 | 1.9% | 5 | 1.2% | |
| Educational background | | | | | | | $p < .001$ |
| Primary, high, vocational school | 81 | 51.3% | 42 | 15.7% | 123 | 28.9% | |
| College and university | 77 | 48.7% | 225 | 84.3% | 302 | 71.1% | |
| Time since loss (in months) [a] | 46.08 | 32.53 | 50.26 | 33.61 | 48.72 | 33.24 | $p = .213$ |
| Loss kin | | | | | | | $p = .001$ |
| Immediate | 85 | 53.8% | 99 | 37.1% | 184 | 43.3% | |
| Other | 73 | 46.2% | 168 | 69.4% | 241 | 56.7% | |
| Cause of death | | | | | | | $p < .001$ |
| Violent | 47 | 29.7% | 33 | 12.4% | 80 | 18.8% | |
| Nonviolent | 111 | 70.3% | 234 | 87.6% | 345 | 81.2% | |

Note: The superscript [a] represents variables with missing values.

Table 2 The mean and SD of the average scores of the Existential Isolation Scale according to gender and cultural group.

| | German-speaking sample | Chinese sample | Total |
|---|---|---|---|
| Male | 3.92 (1.01) | 3.84 (1.02) | 3.86 (1.01) |
| Female | 3.70 (1.18) | 4.00 (1.00) | 3.88 (1.09) |
| Total | 3.74 (1.15) | 3.95 (1.01) | |

Table 3 Regression analyses of the models predicting prolonged grief symptoms

| | IPGDS standard | | | | IPGDS total | | | |
|---|---|---|---|---|---|---|---|---|
| | Unstandardized *B* | Standardized β | *p* | 95% Confidence interval for *B* | Unstandardized *B* | Standardized β | *p* | 95% Confidence interval for *B* |
| Step 1 | | | | | | | | |
| Gender | -1.592 | -0.061 | .195 | -4.004, 0.819 | -2.881 | -0.049 | 0.293 | -8.263, 2.501 |
| Age | -0.009 | -0.010 | .854 | -0.103, 0.085 | -0.045 | -0.024 | 0.670 | -0.255, 0.164 |
| Educational background | -0.423 | -0.017 | .721 | -2.747, 1.902 | -1.081 | -0.019 | 0.682 | -6.270, 4.107 |
| Kinship | 8.233 | 0.352 | < **.001** | 5.652, 10.815 | 19.257 | 0.368 | **< .001** | 13.496, 25.019 |
| Cause of death | 0.009 | 0.000 | .995 | -2.693, 2.712 | 0.565 | 0.009 | 0.854 | -5.467, 6.596 |
| $\Delta R^2 = 0.125$, *F* change = 11.897, $p < .001$ | | | | | $\Delta R^2 = 0.131$, *F* change = 12.508, $p < .001$ | | | |
| Step 2 | | | | | | | | |
| Cultural group | -5.246 | -0.453 | < **.001** | -6.300, -4.192 | -22.026 | -0.411 | **< .001** | -26.946, -17.106 |
| Existential isolation | 1.710 | 0.148 | < **.001** | 0.775, 2.645 | 0.724 | 0.178 | **< .001** | 0.393, 1.054 |
| $\Delta R^2 = 0.191$, *F* change = 57.661, $p < .001$ | | | | | $\Delta R^2 = 0.173$, *F* change = 51.502, $p < .001$ | | | |
| Step 3 | | | | | | | | |
| Existential isolation × cultural group | 0.925 | 0.082 | **.048** | 0.010, 1.840 | 0.411 | 0.051 | 0.229 | -0.26, 1.082 |
| $\Delta R^2 = .006$, *F* change = 3.946, $p = .048$ | | | | | $\Delta R^2 = 0.002$, *F* change = 1.452, $p = .229$ | | | |

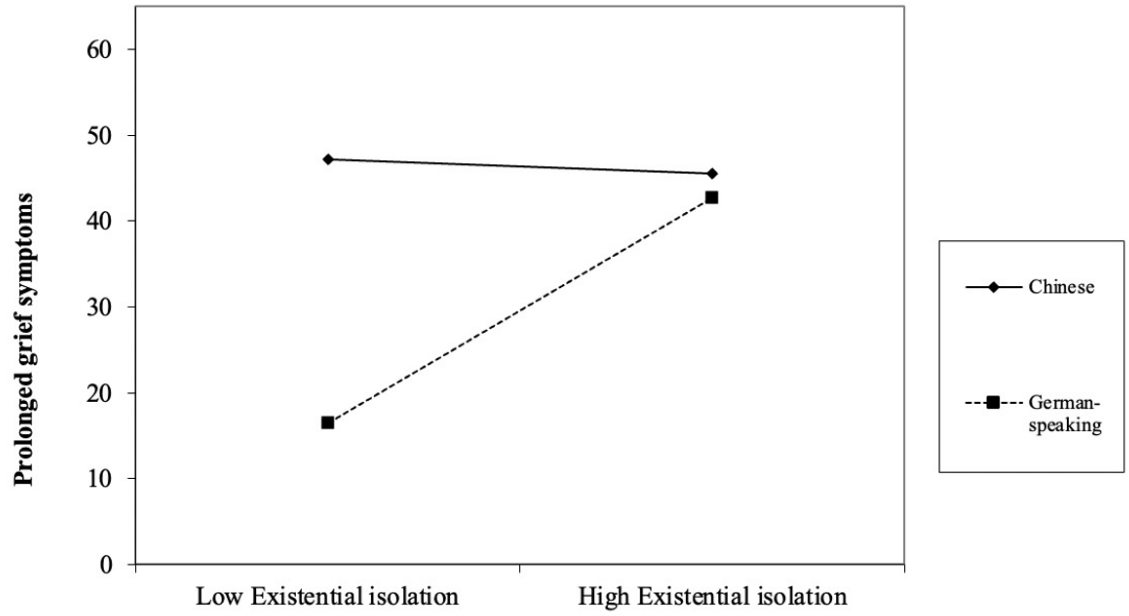


Fig. 1 The moderating role of the cultural group in the relationship between existential isolation and prolonged grief symptoms. The covariates controlled in the modeling analysis were gender, age, educational background, kinship, and cause of death.