rijksuniversiteit groningen

The Relationship Between the Big Five Personality Traits and Complicated Grief: A Systematic Review

Lilli Deutsch

Master Thesis – Clinical Forensic Psychology & Victimology

S5109477
April 2023
Department of Psychology
University of Groningen
Examiner/Daily supervisor:
Dr. Maarten Eisma

Abstract

Some bereaved individuals experience complicated grief (CG), which is characterized by prolonged and intense grief and associated with various negative outcomes. The Big Five personality traits (neuroticism, extraversion, agreeableness, openness to experience and conscientiousness) have previously been found to be associated with common mental health problems and have been identified as possible targets in treatment of affective disorders. Research suggests that there are similar associations between the Big Five personality traits and CG symptoms. Yet, there is no comprehensive review charting the nature of these relationships. Therefore, we conducted a systematic review (PROSPERO registration number: CRD42022373078) on the relationships between the Big Five personality traits and CG symptoms. We searched PubMed, Web of Science and PsycInfo for quantitative studies on the topic (last search date: November 17th, 2022). Our final review included 16 peer reviewed, English-language studies on 3470 bereaved adults. Most studies (15) focused on neuroticism and found evidence for a concurrent positive association between neuroticism and CG symptoms. Longitudinally, neuroticism was merely associated with CG symptoms in uncontrolled analyses but did not predict maintenance of symptoms in controlled analyses. Only two concurrent studies reported on Big Five traits other than neuroticism and the role of these traits in CG symptoms has therefore not been studied adequately. Thus, we advise more longitudinal research across diverse samples to draw firm conclusions about the role of the Big Five personality traits in CG symptoms. This is important to identify possible treatment targets and better assist individuals experiencing CG symptoms.

Keywords: complicated grief, Big Five personality traits, treatment, systematic review

The Relationship Between the Big Five Personality Traits and Complicated Grief: A Systematic Review

A significant minority of bereaved individuals experience difficulties in their grieving process. For example, some individuals experience protracted and severe grief after the loss of a loved one, accompanied by functional impairments in daily life, which has been termed as prolonged grief, traumatic grief and complicated grief (Killikelly & Maerker, 2018; Prigerson et al., 2021). For the purpose of this review, the term complicated grief (CG) will be used. Over the past years, CG responses have been extensively studied and have been added as prolonged grief disorder (PGD) to diagnostic manuals, including the ICD-11 and the DSM-5-TR (Prigerson et al., 2021). Based on an estimate meta-analysis focused on individuals experiencing natural loss, approximately 10% of bereaved people are estimated to be at risk of experiencing complicated grief (Lundorff et al., 2017).

Cognitive-behavioral therapy for CG symptoms seems to be a promising intervention. However, it is still unclear which individuals benefit from such treatment, and how to assist those for whom this intervention is ineffective (Doering & Eisma, 2016). CG symptoms are predictive of symptoms of future mental health problems, suicidal thoughts, functional disability and lower quality of life (Frumkin et al., 2021; Latham & Prigerson, 2004; Mitchell et al., 2011). Therefore, it seems to be of great importance to conduct more research into who might be at risk for developing CG and how to tailor interventions to effectively treat those affected.

One potential risk factor of CG might be personality, specifically the Big Five personality traits. The Big Five personality traits are one of the most prominent models to describe personality (Rammstedt et al., 2010). The Five-Factor Model (FFM), from which these traits are derived, includes neuroticism (i.e., emotional instability), extraversion (i.e. surgency and sociability), agreeableness (i.e., friendliness and compliance), openness to

experience (i.e., intellect and unconventionality), and conscientiousness (i.e., will to achieve and discipline) (Costa & McCrae , 1992). The Big Five model holds that personality can be defined by these five distinct traits and is one of the most well researched theories of personality.

The Big Five personality traits have been linked to the development and maintenance of common mental health problems (Kotov et al., 2010; Lamers et al., 2012). High levels of extraversion, conscientiousness, openness to experience, and agreeableness are predictive of mental well-being and positive emotions, while high levels of neuroticism are strongly positively associated with negative emotionality (Buecker et al., 2010; Kotov et al., 2010; Lamers et al., 2012; Lyon et al., 2021). Personality factors also seem to interact. Specifically, individuals who show high levels of neuroticism and low levels of the other four traits are at greatest risk for developing mental health problems (Lyon et al., 2021). Out of the five traits, specifically neuroticism and extraversion show the strongest correlation with common mental health problems and might even lie at the heart of affective disorders (Lamers et al., 2012).

A possible explanation for this is that mental health problems, such as anxiety and depression, are defined by high levels of negative affect, which is reflected in the trait neuroticism (Clark et al., 1994). Individuals who display high levels of neuroticism show more negative emotionality, rumination, and an elevated risk of reactivity to stressful life events, putting them at risk for developing symptoms of affective disorders (du Pont et al., 2019; Lyon et al., 2021). Extraverted individuals, on the other hand, usually experience high levels of positive affect and more positive life-events. They further display adaptive coping skills and an extensive social support system due to their high levels of sociability (Lamers et al., 2012; Lyon et al., 2021; Watson et al., 2019). This might protect them against the development of mental health problems (Clark et al., 1994).

Similar findings can be observed when studying the associations of the Big Five

personality traits and CG symptomology. A study conducted by Goetter et al. (2019) found a pattern of low levels of conscientiousness, extraversion, and agreeableness, and high levels of neuroticism in bereaved individuals who show high (vs. low) CG symptoms. In line with findings for general psychopathology, the strongest correlation between the Big Five traits and CG symptoms can be observed for neuroticism and extraversion, and individuals with high levels of neuroticism and low levels of extraversion appear to be at greatest risk for developing severe CG symptoms (Goetter et al., 2019; Meuser & Marwit, 2010). For CG symptomatology specifically, this might be explained through the mechanism of poor coping, as individuals with high neuroticism show greater levels of emotional reactivity and negative emotions regarding the loss (Boelen & Klugkist, 2021; Goetter et al., 2019; Robinson & Marwit, 2006). In contrast, due to their sociability, extraverted individuals often show less social isolation and larger social support networks, which have previously been found to be associated with lower levels of CG symptoms (Burke et al., 2010; Spahni et al., 2015). Thus, extraverted individuals may cope more effectively with the bereavement than individuals scoring low on this trait. Furthermore, Ogrodniczuk and colleagues (2003) found that individuals who display high levels of conscientiousness showed more improvement in CG symptoms (assessed with grief specific items and post-traumatic stress items) after an intervention compared to individuals with low conscientiousness levels. Individuals with high levels of conscientiousness display higher levels of self-control and problem-focused coping (Bartley & Roesch, 2011), which may lead to better coping and thereby serve as a protective factor in the development of CG symptoms.

Furthermore, the Big Five personality traits are possible targets in treatment. Especially neuroticism, extraversion, and openness to experience can change adaptively when using effective interventions for affective disorders, such as metacognitive therapy (Kennair et al., 2021). For example, Armstrong & Rimes (2016), ran a pilot randomized study and

employed a mindfulness-based cognitive-behavioral intervention, in which participants learned about common key characteristics of neuroticism (e.g., stress reactivity, self-criticism) and used mindfulness-based techniques (e.g. home practice diaries to note emotions, practicing self-compassion) to overcome such patterns. This intervention showed promising results in decreasing neuroticism and rumination, while simultaneously increasing self-compassion among the participants. Thus, understanding the relationship between the Big Five personality traits and CG could aid with identifying individuals at risk for developing CG symptoms and may provide information that could help tailor treatments to specific personality traits.

In summary, the Big Five personality traits seem to be both potential risk and protective factors in the development and maintenance of CG symptoms. Furthermore, there are negative consequences of CG symptoms on individuals and past research in other areas shows that the Big Five personality traits serve as feasible treatment targets to reduce mental health problems. However, there is no review synthesizing current knowledge on the associations between the Big Five and CG symptoms. We therefore aim to conduct a systematic review to provide a comprehensive overview of quantitative research among bereaved adults on the relations between Big Five personality traits and CG symptomology. By doing so, our goal is to provide a better insight into how the Big Five traits relate to CG symptomology and how this knowledge could be applied in practice to better assist bereaved individuals.

Methods

Preregistration

This systematic review was pre-registered at PROSPERO, an international database for prospective systematic reviews, under the registration number CRD42022373078. The

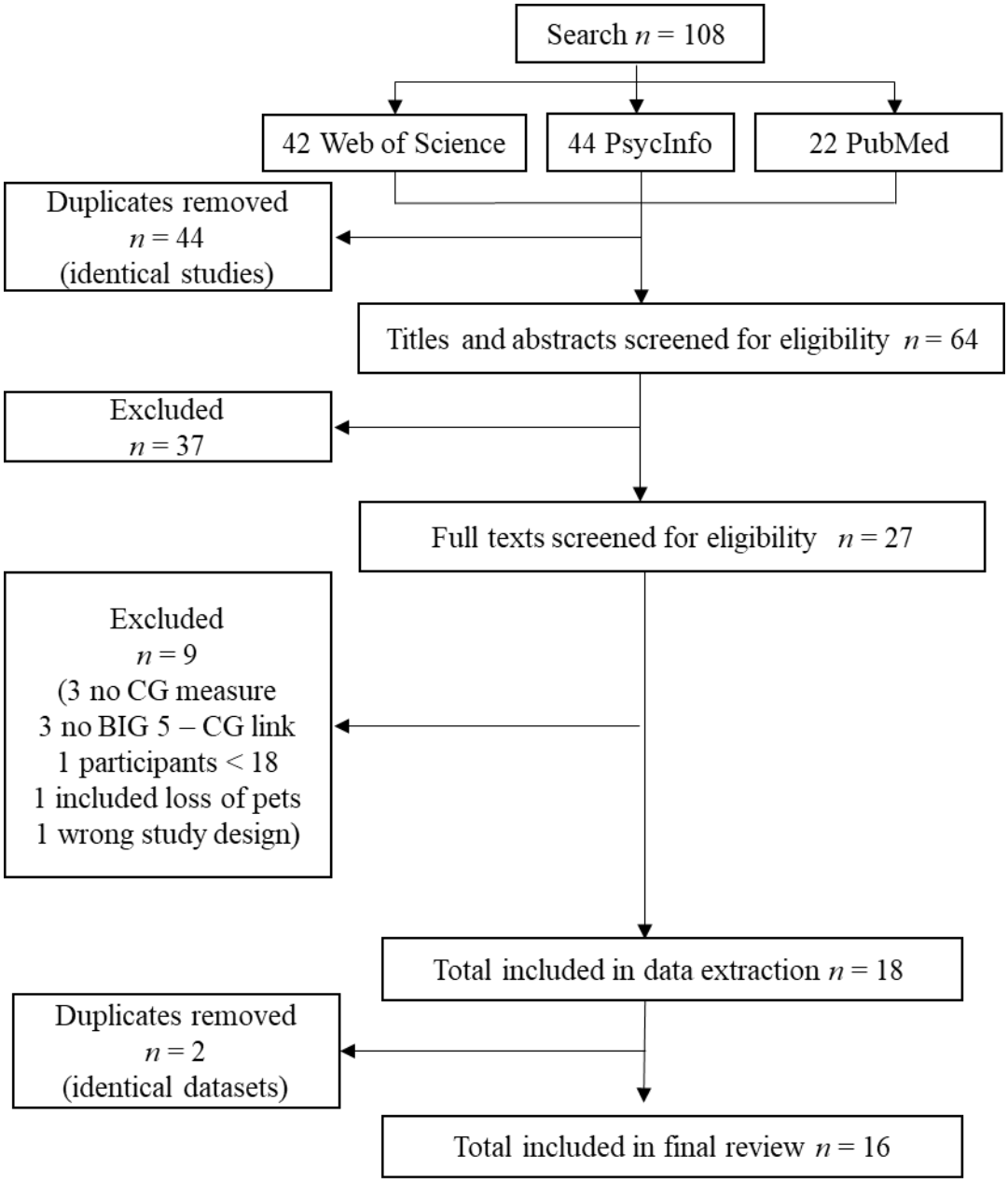
review was written in accordance with PRISMA guidelines (Page et al., 2020). A checklist can be found in Appendix A.

Search Strategy

We searched three databases, PubMed, PsycInfo and Web of Science. We used the following string of keywords for CG and Big Five personality traits: "prolonged grief" OR "complicated grief" OR "persistent complex bereavement disorder" OR "pathological grief" OR "traumatic grief" OR "prolonged grief disorder" OR PCBD OR PGD AND "Big Five" OR "Big 5" OR "five factor model" OR FFM OR neuroticism OR "emotional stability" OR extraversion OR extroversion OR agreeableness OR "openness to experience" OR conscientiousness OR intraversion OR introversion. The search, conducted November 17th 2022, resulted in the identification of 108 papers, of which 44 duplicates were removed. The screening of articles was done independently by both reviewers. Conflicts were discussed until an agreement was reached. Thirty-seven of 64 articles were found to be irrelevant after screening titles and abstracts. The remaining 27 studies were reviewed in full, which resulted in a final number of 18 articles included for data extraction. Figure 1 displays the screening process in a flowchart.

Figure 1

PRISMA Flowchart of Literature Search



Inclusion and Exclusion criteria

In order to ensure study quality and allow for easier interpretation of study findings, we included only peer-reviewed articles written in English language reporting on quantitative data. Given the purpose of the review, we included only studies with a sample of bereaved adults who experienced the death of a spouse, family member, or close friend. Studies in

which the participants experienced other losses (e.g. the loss of a pet, romantic relationship breakup) were excluded. To ensure that individual studies would at least show sufficient power to detect very strong correlations (r = .80) (Cohen, 1988), solely studies with a sample size of at least 20 bereaved participants were included (Eisma & Stroebe, 2021). The papers needed to include at least one standardized measure of the Big Five personality traits (e.g., HEXACO Personality Inventory-Revised (HEXACO-PI-R), Ashton et al., 2004; NEO Personality Inventory-Revised (NEO PI-R), Costa & McCrae, 1992). Additionally, the studies had to include one or more standardized measure of CG symptoms. Since the Inventory of Complicated Grief (ICG) (Prigerson et al., 1995), the first validated CG symptom instrument, was published in 1995, studies published before that year were excluded from the review. Lastly, at least one statistical association between the Big Five personality traits and CG symptoms had to be reported in the paper.

Data extraction procedure

We extracted sample characteristics (e.g. sample size, country of origin, gender, mean age), bereavement characteristics (e.g. cause of death, mean time since death, relationship to the deceased), information on the study design (i.e. cross sectional survey or longitudinal survey), characteristics of the Big Five personality trait and CG measures (e.g. name of the instrument, number of items, mean scores, Cronbach's alpha), and statistical associations between the two constructs. Two students conducted the data extraction individually and disagreements were discussed until they were resolved. If needed, a third rater helped make a final decision. Initial interrater-agreement across all extracted data was 95%. The quality of the studies was assessed individually using six relevant items of the Manual for Quality Scoring of Quantitative Studies (Alberta Heritage Foundation for Medical Research; Kmet et al., 2004). Disagreements were discussed between the raters. The selected criteria were: (1) sufficient description subjects characteristics (and comparison group, if applicable), (2)

appropriate sample size, (3) analytic methods described, (4) outcomes and means of measures well defined and reported, (5) results reported in detail, (6) conclusions supported by results relevant for this review. The rest of the items included in the manual were not considered applicable for the included studies and were therefore not included in the quality assessment. We did not conduct a meta-analysis due to the expected high heterogeneity of the sample and study characteristics, as well as statistical analyses in each study. Furthermore, we did not anticipate a sufficient amount of studies for a meta-analysis on the topic of the relationship between most of the Big Five personality traits and CG symptoms. For these reasons, we deemed a qualitative summary to be a more appropriate way to synthesize knowledge.

Results

The final 16 studies included in this review reported on a total of 3470 bereaved individuals. Eight studies were cross-sectional (50%) and eight were longitudinal (50%). Five of the eight longitudinal studies also reported on cross-sectional data.

The main unweighted sample characteristics across all studies are the following: participants were on average 46.56 years old and predominantly female (78%). Only one study did not report the gender of the participants. All studies reported on the relationship to the deceased, with the most reported losses being the loss of a partner (40%), parents (19%) or child (14%). Fourteen studies reported on the cause of death. Causes of death were split into nonviolent causes (78%), such as illness or unexpected medical causes, and violent causes (22%), such as accident, murder and suicide. The mean time since loss was reported in 12 studies and the average time at baseline was 10.71 months, ranging from 10.62 weeks to 9.8 years.

Fourteen studies focused only on the relationship between neuroticism and CG symptoms (88%), with only one study investigating the relationship between all five of the

Big Five personality traits and CG symptoms (6%) and one study specifically investigating the relationship between openness to experience and CG symptoms (6%).

Quality Assessment

Table 1 reports on study quality assessment. Sample characteristics were sufficiently and accurately described in approximately 69% of the studies. Studies did not meet this criterion if they failed to report on one or more of the extracted sample characteristics, such as the cause of death or the relationship to the deceased. Eighty-seven percent of the studies recruited a substantial sample size. Whilst still meeting the inclusion criterion of $N > 20$, Goetter et al. (2018) and Burke et al. (2019), recruited a relatively small sample size, 81 and 35 respectively, compared to the other studies. This suggests that their studies have potentially lower statistical power than the others. Analytic methods relating to Big Five traits and CG symptoms were sufficiently described and reported in 81% of the studies. The papers that did not meet this criterion, were not sufficiently clear in describing what kind of analysis was used to assess the relationship between the Big Five personality traits and CG symptoms. Only 38% of the studies met the criteria for outcome and assessment, with most of them not reporting mean scores on the measurement instruments for Big Five personality traits and CG symptoms. This was particularly true for neuroticism instruments, presumably due to the fact that it was mainly included as a control variable in most studies. Fifty-six percent of the studies reported coherent and relevant results on the relationship between Big Five personality traits and CG symptoms. This relatively low percentage may reflect that this association was rarely the main focus of the studies. The same can be observed for the conclusions, where only 44% of the articles commenting on the association between Big Five personality traits and CG symptoms in their conclusions.

Table 1

Quality Assessment of Included Studies

Study (authors, date)	Criterion 1: Sample characteristics	Criterion 2: Sample size	Criterion 3: Analytic methods	Criterion 4: Outcome and assessment	Criterion 5: Results	Criterion 6: Conclusions	Total score
Black et al. (2020)	N	Y	Y	Y	Y	N	4
Boelen (2010)	Y	Y	Y	Y	Y	N	5
Boelen (2012)	Y	Y	Y	N	N	N	3
Boelen (2009)	Y	Y	Y	N	Y	N	4
Boelen & Klugkist (2011)	Y	Y	Y	N	N	Y	4
Boelen et al. (2016)	Y	Y	Y	N	Y	Y	5
Boelen & Van den Bout (2010)	Y	Y	N	N	Y	Y	4
Burke et al. (2019)	N	N	Y	N	Y	Y	3
Eisma et al. (2015)	Y	Y	Y	N	Y	N	4
Gegieckaite & Kazlauskas (2020)	Y	Y	Y	Y	Y	Y	6
Goetter et al. (2018)	N	N	Y	Y	N	Y	3
Milman et al. (2019)	N	Y	N	N	N	N	1
Thomsen et al. (2018)	Y	Y	Y	Y	Y	N	5
van der Houwen et al. (2010)	Y	Y	N	N	N	N	2
Vara & Thimm (2020)	Y	Y	Y	Y	N	N	4
Wijngaards-de Meij et al. (2007)	N	Y	Y	N	N	Y	3

Notes: Possible range = 0-6; Y = Yes, N = No; Quality assessment is based on six items of the Manual for Quality Assessment of Quantitative Studies (Kmet et al., 2004). Details of the criteria: Criterion 1 = Sample (and comparison group, if applicable) characteristics sufficiently described; Criterion 2 = Sample size appropriate; Criterion 3 = Analytic method described/justified and appropriate; Criterion 4 = Outcome well defined and robust to measurement, Means of assessment reported; Criterion 5 = Results reported in sufficient detail; Criterion 6 = Conclusion is supported by results and mentions Big Five and CG link

Main findings

A detailed overview of the relationships between the Big Five personality traits and CG symptoms is presented in Table 2 in Appendix B. In the following section, we distinguish between cross-sectional and longitudinal analyses.

Cross-sectional findings

A total of thirteen studies reported cross-sectional associations between the Big Five personality traits and CG symptoms in bereaved individuals (Black et al., 2020; Boelen, 2009, 2010, 2012; Boelen & Klugkist, 2011; Boelen et al., 2016; Boelen & van den Bout, 2010; Burke et al., 2019; Eisma et al., 2015; Gegieckaite & Kazlauskas, 2020; Goetter et al., 2018; van der Houwen et al., 2010; Vara & Thimm, 2020). The majority of these studies focused on the Big Five personality trait neuroticism. Correlational findings showed that neuroticism was consistently positively and significantly correlated with CG symptoms. Correlations ranged from moderate, $r = .39$, to strong, $r = .55$.

In addition to correlational analyses, the relationship between neuroticism and CG symptoms in bereaved individuals was also measured in three studies using concurrent regression analyses (Boelen, 2012; Boelen et al., 2016; Eisma et al., 2015). At baseline, neuroticism was significantly and positively correlated with CG symptoms in all three studies. This remained true when controlling for multiple background variables such as gender, education, and age (Boelen et al., 2016), and was true when neuroticism was entered as a first or last variable in the regression models (Boelen et al., 2016; Eisma et al., 2015). These findings suggest that neuroticism explains unique variance in CG symptoms concurrently.

In a group comparison conducted by Goetter et al. (2018), bereaved individuals with high CG symptoms displayed higher levels of neuroticism than bereaved controls. When including all Big Five personality traits in a multivariate model, neuroticism was the only trait significantly positively associated with CG symptom levels. This study also analysed other

Big Five personality traits and found that bereaved individuals with higher CG symptoms displayed lower levels of conscientiousness (d = 1.02), lower levels of extraversion (d = 1.30) and lower levels of agreeableness (d = 0.55). The effect sizes ranged from medium to large. Regarding openness to experience, there was no significant difference between bereaved individuals with CG symptoms compared to bereaved controls. However, in one study (Black et al., 2020) openness to experience showed a small, negative but significant association with CG symptoms (r = -.14). This means that higher scores of openness to experience were associated with lower CG symptoms.

Longitudinal findings

Regarding longitudinal evidence, five studies reported longitudinal correlations between neuroticism at baseline and CG symptoms at a later point in time, without controlling for baseline symptoms. In most of these studies, neuroticism was significantly and positively correlated with CG symptoms, and these correlations were moderate in strength, r = .36, to r = .43. Similarly, in Boelen et al. (2016), T1 neuroticism was moderately, negatively and significantly related to T2 CG symptoms, when entered first in a regression model (R^2 = .14). This suggests that in uncontrolled studies, neuroticism at baseline is positively associated with CG symptoms at a later point in time.

Furthermore, one multilevel analysis with 3 levels (observations nested within time, nested within individuals, nested within couples), including time and gender as control variables, found that neuroticism related moderately and positively to CG symptoms and explained some variance in CG symptoms (R^2 = .09) (Wijngaards-de Meij et al., 2007).

Furthermore, one study (Boelen, 2012) reported on a multiple longitudinal regression model including T1 background variables, attachment styles, closeness to the deceased, event centrality and baseline symptoms as predictors of T2 CG symptoms. In this model, T1 neuroticism did not significantly predict CG symptoms at T2. Moreover, in two hierarchical

regression models, controlling for baseline symptoms or other variables, T1 neuroticism did not significantly predict T2 and T3 CG symptoms (Burke et al., 2019; Eisma et al., 2015). In addition, van der Houwen et al. (2010), did not find a direct effect of neuroticism on CG symptoms in a multilevel multiple mediation model (repeated measures nested within individuals) including other risk factors (e.g. gender, attachment, etc.). Furthermore, in the same longitudinal study there was no significant interaction of time and neuroticism on CG symptoms. All of these findings indicate that neuroticism does not sufficiently predict increases of CG symptoms over time.

Discussion

The aim of this review was to summarize the current quantitative literature on the relationship between the Big Five personality traits and CG symptoms. This is relevant to gain a better understanding of how personality is associated with grief and could potentially inform how we may better assist individuals affected by CG symptoms.

The first main finding was that the current body of literature on the topic of this review mainly comprises research on the effects of neuroticism on CG symptoms. Second, neuroticism was moderately to strongly positively associated with CG symptoms in cross-sectional correlational research, and moderately positively associated with CG symptoms in longitudinal correlational studies (e.g., Boelen, 2010; Boelen et al., 2016). However, a third finding was that the neuroticism did not predict CG symptoms at a later point in time in studies controlling for baseline symptoms (e.g., Boelen, 2012; Burke et al., 2019). Additionally, van der Houwen and colleagues (2010) did not find an interaction between neuroticism and time on CG symptoms in a multilevel model in which repeated measures were nested within individuals. Therefore, neuroticism likely does not play a role in the maintenance of CG symptoms as it does not change grief levels over time. This implies that neuroticism might not be a useful treatment target for CG symptoms and may be of greater

importance in interventions targeting other mental health problems, such as anxiety or stress-related disorders (Armstrong & Rimes, 2016; Barlow et al., 2014).

Moreover, there were only two (cross-sectional) surveys that focused on traits other than neuroticism (Black et al., 2020; Goetter et al., 2018). There was no effect of openness to experience on CG symptoms in this study (Goetter et al., 2018). Nevertheless, bereaved individuals with high CG symptoms displayed lower levels of conscientiousness, extraversion and agreeableness, compared to bereaved controls low on CG symptoms. In a regression model including all the Big Five personality traits, only neuroticism was significantly positively associated with CG symptoms. However, openness to experience showed small positive associations with CG symptoms in another larger correlational study (Black et al., 2020). While these findings suggest that these traits might be associated with CG symptoms, it is not possible to draw strong conclusions. This is due to the limited number of studies on traits other than neuroticism, the mixed results, the cross-sectional designs, and as neuroticism was the only trait significantly associated with CG symptoms in a model with all Big Five traits. Furthermore, the study by Goetter and colleagues (2018) scored relatively low on the quality assessment, due to a small sample size and an incoherent description of sample characteristics and results. This further limits the strength of conclusions that can be drawn from this study.

Our findings are partially in line with previous studies in other areas. In these studies, neuroticism was found to be related to affective disorders and shows the strongest correlations with common mental health problems out of the Big Five traits (du Pont et al., 2019; Lamers et al., 2012; Lyon et al., 2021). This is in line with our correlational findings, which suggest that neuroticism is positively related to CG symptoms. However, previous research further suggests that neuroticism might explain the development and maintenance of symptoms, and that decreasing neuroticism therapeutically is associated with symptom improvement in

affective disorders (Barlow et al., 2014; Kotov et al., 2010; Lamers et al., 2012). Our review suggests that neuroticism does not predict CG symptoms in controlled studies and does not seem to increase CG symptoms over time. This tentatively suggests that neuroticism might not be a viable treatment target in people experiencing severe, persistent and disabling grief.

Additionally, previous research further found an association between the other four Big Five personality traits and affective disorders. (Buecker et al., 2010; Kotov et al., 2010; Lamers et al., 2012; Lyon et al., 2021). Especially extraversion seems to play a substantial role in protecting against symptoms of affective disorders (Lamers et al., 2012). Moreover, conscientiousness has found to be associated with more favorable treatment outcomes in interventions targeting CG symptoms, when assessed with grief specific items and post-traumatic stress items (Ogrodniczuk et al., 2003). Furthermore, extraversion and openness to experience can change adaptively when targeted in interventions (Kennair et al., 2021). Despite the apparent role of these traits in symptoms of affective disorders, only two cross-sectional studies in our review focused on traits other than neuroticism. Therefore, our findings point towards a gap in research on how Big Five traits other than neuroticism relate to CG symptoms.

Furthermore, we did not find the same role of neuroticism in CG symptoms as previous studies found in other areas. A possible explanation for the contradicting findings, is that personality traits interact and could both neutralize or enhance the risk to develop specific mental health problems (Lamers et al., 2012; Lyon et al., 2021). For example, high levels of extraversion and conscientiousness have shown to protect against the increased risk of high neuroticism in the development of internalizing disorders (Naragon-Gainey & Simms, 2017). Additionally, apart from other Big Five personality traits, other variables might influence the relationship between neuroticism and CG symptoms or better explain the maintenance of symptoms. For example, low levels of social support and low levels of physical exercise have

previously been found to further increase the risk of depression and anxiety symptoms in individuals scoring high on neuroticism (Vittengl, 2017). Following, future studies should consider researching if similar interactions can be found between such variables and neuroticism when investigating CG symptoms.

A few strengths of this study should be considered. This review was preregistered at PROSPERO. This ensures scientific integrity, as it does not allow for (extensive) changes to be made to the review after registration. Furthermore, the review was conducted and written in accordance with PRISMA guidelines. These guidelines concern a minimum set of items that need to be reported in the systematic review and enhance transparency and scientific value of this review (Page et al., 2020**)**. Lastly, the included studies were assessed for quality, using a standardized manual for quality assessment (Kmet et al., 2004). This allows to identify possible limitations of the studies and provides insights into the strengths of the conclusions that can be drawn from each study.

However, there are also certain limitations to this systematic review. The first type concerns limitations to the methods. We only included peer-reviewed literature. While this was considered necessary to ensure the quality of the included studies, we might have excluded some relevant studies on the relationship between the Big Five personality traits and CG symptoms. Furthermore, included studies had to be written in English language, which may limit the accessibility and generalizability of the results to specific populations. Future reviews on this topic may consider investigating studies on the topic in other languages.

Additionally, we expected a relatively low number of studies, significant variability in sample and study characteristics, as well as heterogeneity in the study designs. For this reason, we did not conduct a meta-analysis and merely summarized the results of the studies qualitatively. Future reviews on the topic might want to consider conducting a meta-analysis to obtain an additional statistical summary on the topic of the Big Five personality traits and

CG symptoms.

Moreover, there were limitations to the dataset. Most studies included a significantly higher number of female participants than male participants. Only one study recruited more males than females (Black et al., 2020). Therefore, our findings might predominantly represent the effects of personality traits on CG symptoms in female bereaved adults. Future researchers conducting surveys in this area may specifically focus on investigating gender differences in the relationship between the Big Five personality traits and grief. Future quantitative research on the topic may intentionally recruit more male participants.

Furthermore, most studies recruited Dutch participants, followed by US participants and participants from other European countries. Our conclusions might therefore be limited to Western cultures. Additionally, most studies investigated neuroticism. This limits our ability to draw conclusions about the relationship between traits other than neuroticism and CG symptoms. Future quantitative research may further investigate how other Big Five personality traits relate to CG symptoms and interact to predict CG symptoms.

Moreover, most studies only reported cross-sectional associations between the Big Five personality traits and CG. There was a relatively low number of longitudinal studies, which were all non-experimental. Thus, we can merely draw conclusions about associations and no causal links can be established. While experimental manipulation and establishing causality might not be possible when studying the topic of personality and grief, quasi-experimental designs or intensive longitudinal studies could be implemented in future research to allow for temporal relationships to be observed. For example, longitudinal studies could employ group comparisons and investigate how CG symptoms change over time in a group scoring low on a certain Big Five personality trait compared to a group scoring high on that specific trait.

Lastly, some included studies were of low quality, specifically for the examination of

the associations between the Big Five personality traits and CG symptoms. Only one study met all criteria on the quality assessment (Gegieckaite & Kazlauskas, 2020). One of the included studies only met one criterion, due to inconsistencies in the methods, results and description of sample characteristics (Milman et al., 2019). This lowers the strength of the conclusions that can be drawn from these studies and thus, our results should be interpreted with caution.

In conclusion, our review showed that there seems to be a positive and moderate to strong association between neuroticism and CG symptoms, but that neuroticism does not seem to maintain CG symptoms over time. Therefore, neuroticism does not appear to be a useful target in interventions for CG symptomology. Furthermore, our review emphasized that there is little quantitative evidence on the relationship between conscientiousness, agreeableness, openness to experience, extraversion, and CG symptoms. Thus, more research is needed to understand the role of Big Five personality traits other than neuroticism in CG symptomology. Furthermore, due to limitations, such as the correlational nature of most studies on the topic, more intensive longitudinal research and quasi-experimental research is needed before fully excluding the Big Five personality traits as a risk factor for CG symptoms. We believe that further investigating potential risk factors of CG symptoms, such as personality traits, is important to find possible treatment targets and better assist individuals experiencing severe CG symptoms.

References

Armstrong, L., & Rimes, K. A. (2016). Mindfulness-based cognitive therapy for neuroticism (stress vulnerability): A pilot randomized study. *Behavior Therapy*, *47*(3), 287–298. https://doi.org/10.1016/j.beth.2015.12.005

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., Boies, K., & De Raad, B. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology*, *86*(2), 356–366. https://doi.org/10.1037/0022-3514.86.2.356

Barlow, D. H., Sauer-Zavala, S., Carl, J. R., Bullis, J. R., & Ellard, K. K. (2014). The nature, diagnosis, and treatment of neuroticism: Back to the future. *Clinical Psychological Science*, *2*(3), 344-365. https://doi.org/10.1177/2167702613505532

Bartley, C. E., & Roesch, S. C. (2011). Coping with daily stress: The role of conscientiousness. *Personality and Individual Differences, 50*(1), 79-83 https://doi.org/10.1016/j.paid.2010.08.027

Black, J., Belicki, K., Emberley-Ralph, J., & McCann, A. (2020). Internalized versus externalized continuing bonds: Relations to grief, trauma, attachment, openness to experience, and posttraumatic growth. *Death Studies*, *46*(2), 399–414. https://doi.org/10.1080/07481187.2020.1737274

Boelen, P. (2010). Intolerance of uncertainty and emotional distress following the death of a loved one. *Anxiety, Stress & Coping*, *23*(4), 471–478. https://doi.org/10.1080/10615800903494135

Boelen, P. A. (2012). A prospective examination of the association between the centrality of a loss and post-loss psychopathology. *Journal of Affective Disorders, 137*(1–3), 117-124. https://doi.org/10.1016/j.jad.2011.12.004

Boelen, P. A. (2009). The centrality of a loss and its role in emotional problems among bereaved people. *Behaviour Research and Therapy*, *47*(7), 616–622. https://doi.org/10.1016/j.brat.2009.03.009

Boelen, P. A., & Klugkist, I. (2011). Cognitive behavioral variables mediate the associations of neuroticism and attachment insecurity with prolonged grief disorder severity. *Anxiety, Stress & Coping*, *24*(3), 291–307. https://doi.org/10.1080/10615806.2010.527335

Boelen, P. A., Reijntjes, A., & Smid, G. E. (2016). Concurrent and prospective associations of intolerance of uncertainty with symptoms of prolonged grief, posttraumatic stress, and depression after bereavement. *Journal of Anxiety Disorders*, *41*, 65–72. https://doi.org/10.1016/j.janxdis.2016.03.004

Boelen, P. A., & Van den Bout, J. (2010). Anxious and depressive avoidance and symptoms of prolonged grief, depression, and post-traumatic stress disorder. *Psychologica Belgica*, *50*(1–2), 49-67. https://doi.org/10.5334/pb-50-1-2-49

Buecker, S., Maes, M., Denissen, J. J. A., & Luhmann, M. (2020). Loneliness and the big five personality traits: A meta-analysis. *European Journal of Personality*, *34*, 8– 28. https://doi.org/10.1002/per.2229

Burke, L. A., Neimeyer, R. A., Bottomley, J. S., & Smigelsky, M. A. (2017). Prospective risk factors for intense grief in family members of veterans who died of terminal illness. *Illness, Crisis & Loss*, *27*(3), 147–171. https://doi.org/10.1177/1054137317699580

Burke, L. A., Neimeyer, R. A., & McDevitt-Murphy, M. E. (2010). African American homicide bereavement: Aspects of social support that predict complicated grief, PTSD, and depression. *OMEGA - Journal of Death and Dying*, *61*(1), 1–24. https://doi.org/10.2190/om.61.1.a

Clark, D. M., Salkovskis, P. M., Hackmann, A., Middleton, H., Anastasiades, P., & Gelder,M. (1994). A comparison of cognitive therapy, applied relaxation and imipramine inthe treatment of panic disorder. *The British Journal of Psychiatry*, *164*(6), 759–769. https://doi.org/10.1192/bjp.164.6.759

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). _____ _____Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, *4*(1), 5–13. https://doi.org/10.1037/1040-3590.4.1.5

Costa, P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, *6*(4), 343–359. https://doi.org/10.1521/pedi.1992.6.4.343

Doering, B. K., & Eisma, M. C. (2016). Treatment for complicated grief: State of the science and ways forward. *Current Opinion in Psychiatry*, *29*(5), 286–291. https://doi.org/10.1097/YCO.0000000000000263

du Pont, A., Rhee, S. H., Corley, R. P., Hewitt, J. K., & Friedman, N. P. (2019). Are rumination and neuroticism genetically or environmentally distinct risk factors for psychopathology? *Journal of Abnormal Psychology*, *128*(5), 385–396. https://doi.org/10.1037/abn0000430

Eisma, M. C., Schut, H. A. W., Stroebe, M. S., Boelen, P. A., van den Bout, J., & Stroebe, W. (2014). Adaptive and maladaptive rumination after loss: A three-wave longitudinal study. *British Journal of Clinical Psychology*, *54*(2), 163–180. https://doi.org/10.1111/bjc.12067

Eisma, M. C., & Stroebe, M. S. (2021). Emotion regulatory strategies in complicated grief: A systematic review. *Behavior Therapy*, *52*(1), 234–249. https://doi.org/10.1016/j.beth.2020.04.004

Frumkin, M. R., Robinaugh, D. J., LeBlanc, N. J., Ahmad, Z., Bui, E., Nock, M. K., Simon, N. M., & McNally, R. J. (2021). The pain of grief: Exploring the concept of psychological pain and its relation to complicated grief, depression, and risk for suicide in bereaved adults. *Journal of Clinical Psychology*, *77*(1), 254–267. https://doi.org/10.1002/jclp.23024

Gegieckaite, G., & Kazlauskas, E. (2020). Do emotion regulation difficulties mediate the association between neuroticism, insecure attachment, and prolonged grief? *Death Studies*, *46*(4), 911–919. https://doi.org/10.1080/07481187.2020.1788667

Goetter, E., Bui, E., Horenstein, A., Baker, A. W., Hoeppner, S., Charney, M., & Simon, N. M. (2019). Five-factor model in bereaved adults with and without complicated grief. *Death Studies*, *43*(3), 204–209. https://doi.org/10.1080/07481187.2018.1446059

Kennair, L. E. O., Solem, S., Hagen, R., Havnen, A., Nysæter, T. E., & Hjemdal,O. (2021). Change in personality traits and facets (revised NEO personality inventory) following metacognitive therapy or cognitive behaviour therapy for generalized anxiety disorder: Results from a randomized controlled trial. *Clinical Psychology & Psychotherapy*, *28*(4), 872– 881. https://doi.org/10.1002/cpp.2541

Killikelly, C., & Maercker, A. (2017). Prolonged grief disorder for ICD-11: The primacy of clinical utility and international applicability. *European Journal of Psychotraumatology*, *8*(6), 1476441. https://doi.org/10.1080/20008198.2018.1476441

Kmet, L. M., Lee, R. C., & Cook, L. S. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields.* Alberta Heritage Foundation for Medical Research.

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: A meta-analysis. *Psychological Bulletin, 136*(5), 768–821. https://doi.org/10.1037/a0020327

Lamers, S. M., Bolier, L., Westerhof, G. J., Smit, F., & Bohlmeijer, E. T. (2012). The impact of emotional well-being on long-term recovery and survival in physical illness: A meta-analysis. *Journal of Behavioral Medicine, 35*(5), 538–547. https://doi.org/10.1007/s10865011-9379-8

Latham, A. E., & Prigerson, H. G. (2004). Suicidality and bereavement: Complicated grief as psychiatric disorder presenting greatest risk for suicidality. *Suicide and Life Threatening Behavior, 34*(4), 350–362. https://doi.org/10.1521/suli.34.4.350.53737

Lundorff, M., Holmgren, H., Zachariae, R., Farver-Vestergaard, I., & O'Connor, M. (2017). Prevalence of prolonged grief disorder in adult bereavement: A systematic review and meta-analysis. *Journal of Affective Disorders, 212*, 138-149. https://doi.org/10.1016/j.jad.2017.01.030

Lyon, K. A., Elliot, R., Ware, K., Juhasz, G., & Brown, L. J. E. (2021). Associations between facets and aspects of big five personality and affective disorders: A systematic review and best evidence synthesis. *Journal of Affective Disorders, 288*, 175–188. https://doi.org/10.1016/j.jad.2021.03.061

McCrae, R. R., & Costa, P. T., Jr. (1999). A five-factor theory of personality. In L. A. Pervi & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 139–153). Guilford Press.

Milman, E., Neimeyer, R. A., Fitzpatrick, M., MacKinnon, C. J., Muis, K. R., & Cohen, S. R. (2019b). Prolonged grief and the disruption of meaning: Establishing a mediation model. *Journal of Counseling Psychology, 66*(6), 714–725. https://doi.org/10.1037/cou0000370

Mitchell, A. M., Kim, Y., Prigerson, H. G., & Mortimer, M. K. (2005). Complicated grief and suicidal ideation in adult survivors of suicide. *Suicide and Life-Threatening Behavior*, *35*(5), 498–506. https://doi.org/10.1521/suli.2005.35.5.498

Naragon-Gainey, K., & Simms, L. J. (2017). Three-way interaction of neuroticism, extraversion, and conscientiousness in the internalizing disorders: Evidence of disorder specificity in a psychiatric sample. *Journal of Research in Personality*, *70*, 16–26. https://doi.org/10.1016/j.jrp.2017.05.003

Ogrodniczuk, J. S., Piper, W. E., Joyce, A. S., McCallum, M., & Rosie, J. S. (2003). NEO Five Factor personality traits as predictors of response to two forms of group psychotherapy. *International Journal of Group Psychotherapy*, *53*(4), 417–442. https://doi.org/10.1521/ijgp.53.4.417.42832

Page, M. J., McKenzie, J., Bossuyt, P., Boutron, I., Hoffmann, T., Mulrow, C. D., Shamseer, L., Tetzlaff, J., Akl, E., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E., Mayo-Wilson, E., McDonald, S., … Moher, D. (2020). The Prisma 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, *372*(71). https://doi.org/10.31222/osf.io/v7gm2

Prigerson, H. G., Kakarala, S., Gang, J., & Maciejewski, P. K. (2021). History and status of prolonged grief disorder as a psychiatric diagnosis. *Annual Review of Clinical Psychology*, *17*(1), 109–126. https://doi.org/10.1146/annurev-clinpsy-081219-093600

Rammstedt, B., Goldberg, L. R., & Borg, I. (2010). The measurement equivalence of Big Five factor markers for persons with different levels of education. *Journal of Research in Personality*, *44*(4), 53–61. https://doi.org/10.1016/j.jrp.2009.10.005

Robinson, T., & Marwit, S. J. (2006). An investigation of the relationship of personality, coping, and grief intensity among bereaved mothers. *Death Studies*, *30*(7), 677–696. https://doi.org/10.1080/07481180600776093

Spahni, S., Morselli, D., Perrig-Chiello, P., & Bennett, K. M. (2015). Patterns of psychological adaptation to spousal bereavement in old age. *Gerontology*, *61*(5), 456-468. https://doi.org/10.1159/000371444

Thomsen, D. K., Lundorff, M., O'Connor, M., & Damkier, A. (2018). Narrative identity and grief reactions: A prospective study of bereaved partners. *Journal of Applied Research in Memory and Cognition*, *7*(3), 412–421. https://doi.org/10.1016/j.jarmac.2018.03.011

van der Houwen, K., Stroebe, M., Schut, H., Stroebe, W., & Bout, J. V. D. (2010). Mediating processes in bereavement: The role of rumination, threatening grief interpretations, and deliberate grief avoidance. *Social Science & Medicine*, *71*(9), 1669–1676. https://doi.org/10.1016/j.socscimed.2010.06.047

Vara, H., & Thimm, J. C. (2019). Associations between self-compassion and complicated grief symptoms in bereaved individuals: An exploratory study. *Nordic Psychology*, *72*(3), 235-247. https://doi.org/10.1080/19012276.2019.1684347

Vittengl, J. R. (2017). Who pays the price for high neuroticism? Moderators of longitudinal risks for depression and anxiety. *Psychological Medicine*, *47*(10), 1794–1805. https://doi.org/10.1017/s0033291717000253

Watson, D., Stanton, K., Khoo, S., Ellickson-Larew, S., & Stasik-O'Brien, S. M. (2019). Extraversion and psychopathology: A multilevel hierarchical review. *Journal of Research in Personality*, *81*, 1–10. https://doi.org/10.1016/j.jrp.2019.04.009

Wijngaards-de Meij, L., Stroebe, M., Schut, H., Stroebe, W., van den Bout, J., van der Heijden, P., & Dijkstra, I. (2007). Neuroticism and attachment insecurity as predictors of bereavement outcome. *Journal of Research in Personality*, *41*(2), 498–505. https://doi.org/10.1016/j.jrp.2006.06.001

Appendix A

PRISMA Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	4-7
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	7
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	9-10
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	8
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	8
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	8-10
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	10-11
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	10
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	10
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	NA
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	NA
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	NA
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	NA
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	NA
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	NA
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	NA
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized	NA

Section and Topic	Item #	Checklist item	Location where item is reported
		results.	
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	NA
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	NA
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Figure 1/ 9-10
Study characteristics	17	Cite each included study and present its characteristics.	Appendix B
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	NA
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	NA
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	NA
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	NA
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	NA
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	NA
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	NA
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	NA
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	17-18
	23b	Discuss any limitations of the evidence included in the review.	19-21
	23c	Discuss any limitations of the review processes used.	19-21
	23d	Discuss implications of the results for practice, policy, and future research.	19-20
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	7
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	7
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	NA
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	NA
Competing interests	26	Declare any competing interests of review authors.	NA
Availability of data, code, materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	NA

Appendix B

Table 2

Summary of main findings on the Big Five and complicated grief symptoms

Study (authors, date)	***N* (total bereaved; non-bereaved controls, T1)**	**Sample characteristics at baseline**	**Study design**	**Big Five measure (items) – construct, alpha, M (T1)**	**CG measure, alpha, M CG (T1)**	**Relevant findings**
Black et al. (2022)	268 bereaved, no non-bereaved	USA, 43% female, *M* age = 33.83 years, range time since loss = 12 to 24 months, cause of death was not reported, participants lost partner (100%)	Cross-sectional online survey	HEXACO Personality Inventory-Revised Openness to Experience Subscale, 16 items α = .85 *M* = 3.55	Inventory of Traumatic Grief, 30 items, α = .96 *M* = 2.85	Openness to experience was significantly negatively related to CG symptoms, r = -.14, p <.05.
Boelen (2010)	134 bereaved, no non-bereaved	Netherlands, 90% female, *M* age = 43.8 years, *M* time since loss = 23.8 months, cause of death was illness (52%), unexpected medical cause (26%), violent loss (10%), other cause (12%), participants lost child (15%), partner (30%), parent (31%), other relative (25%)	Cross-sectional survey	Shortened Eyseneck Personality Questionnaire Neuroticism Subscale, 12 items, α = .87 *M* = 4.93	Inventory of Complicated Grief-Revised, 29 items, α = .94, *M* = 66.91	Neuroticism was significantly positively related to GC symptoms, r = .43, p <.001.
Boelen (2012)	176 bereaved, no non-bereaved	Netherlands, 88% female, *M* age = 45 years, *M* time since loss = 4.8 months, cause of death was illness (49%), unexpected medical cause (29%), violent (11%), other cause	Cross-sectional and longitudinal survey	Ten-item Personality Inventory Neuroticism Scale, 2 items, α & *M* not reported	Prolonged Grief Disorder Scale, 11 items, α = .89, *M* = 32	In a model including T1 background variables, attachment styles, closeness to the deceased and event centrality, T1 neuroticism related significantly and positively to T1 GC symptoms, ß = .41, p <.001 In a model including T1 background

		(10%), participants lost child (9%), partner (52%), other relative (39%)				variables, attachment styles, closeness to the deceased, event centrality and GC symptoms, T1 neuroticism did not significantly predict T2 CG symptoms, *ß* = -.01, *p* >.05.
Boelen (2009)	254 bereaved, no non-bereaved	Netherlands, 89% female, *M* age = 42.2 years, *M* time since loss = 41.9 months, cause of death was illness (52%), violent loss (9%), other cause (39%) participants lost child (18%), partner (33%), parent (31%), sibling (5%) or other relative (9%)	Cross-sectional survey	Neuroticism Scale from the Eyseneck Personality Questionnaire, 12 statements, α = .81 *M* not reported	Inventory of Complicated Grief-Revised 30 items, α = .94, *M* = 70.73	Neuroticism was significantly positively related to CG symptoms, *r* = .52, *p* <.001.
Boelen & Klugkist (2011)	348 bereaved, no non-bereaved	Netherlands, 91% female, *M* age = 42.2 years, *M* time since loss = 24.9 months, cause of death was illness (52%), unexpected medical cause (24%), violent loss (10%), other cause (13%) participants lost child (16%), partner (34%), parent (31%), or other relative (19%)	Cross-sectional survey	Neuroticism Scale from the Eyseneck Personality Questionnaire, 12 statements, α = .81 *M* not reported	Inventory of Complicated Grief-Revised 30 items, α = .91, *M* = 72	There was a significant positive association between neuroticism and prolonged grief symptoms, R^2 = .32.
Boelen et al. (2016)	265 bereaved, no non-bereaved	Netherlands, 71% female, *M* age =55.9 years, *M* time since loss = 4.4 months, cause of death was natural (91%), violent (9%), participants lost	Cross-sectional and longitudinal survey	Ten-item Personality Inventory Neuroticism Scale, 2 items, α = .73 *M* not reported	Prolonged Grief Disorder Scale, 11 items α = .92, *M* = 27.1	T1 neuroticism was significantly positively related to T1 CG symptoms, *r* = .50, *p* <.0024 T1 neuroticism was significantly positively related to T2 CG symptoms, *r* = 0.38; *p* < .0024.

		child (7%), partner (48%), other relative (45%)				In a regression model including T1 background variables (gender, age, education, time since loss, relationship to the deceased, cause of death), prospective IU, inhibitory IU, worry and rumination, T1 neuroticism was significantly and positively related to T1 CG symptoms, when entered first in the model, ß = .17, R^2 = .25, p < .001, and when entered last in the model, R^2 = *.01;* In a regression model including T1 background variables (gender, age, education, time since loss, relationship to the deceased, cause of death), prospective IU, inhibitory IU, worry, rumination and CG symptoms, T1 neuroticism significantly and negatively predicted T2 CG symptoms when entered first in the model, ß = -.01, R^2 = .14, p < .001, but did not when entered last in the model, R^2 = .001.
Boelen & van den Bout (2010)	161 bereaved, no non-bereaved	Netherlands, 80% female, *M* age =53.5 years, *M* time since loss = 53.6 months, cause of death was illness (56%), unexpected medical cause (16%) violent (12%) other cause (12%), participants lost child (10%), partner (53%), parent (24%) or other relative (12%)	Cross-sectional survey	Neuroticism Scale from the Eyseneck Personality Questionnaire 12 items α = .79, *M* not reported	Inventory of Complicated Grief-Revised, 30-items, α = .96 *M* = 69.4	Neuroticism was positively correlated with CG symptoms, b = 3.91, p < .001.

Burke et al. (2019)	35 bereaved, no non-bereaved	USA, 77% female, *M* age = 58.64 years, *M* time since loss not reported, cause of death was terminal illness (100%), participants lost partner (34%), parent (31%), sibling (26%), other (9%)	Cross-sectional and longitudinal survey	Neuroticism Subscale of Big Five Inventory 8 items α = .83 *M* not reported	Prolonged Grief Disorder Scale 13 items α = .92, *M* = 8.43	T1 neuroticism was positively correlated with CG symptoms at T2, r = .42, p < .05. T2 neuroticism was positively correlated with CG symptoms at T2, r = .39, p < .05. In a hierarchical regression model including T1 demographic variables (ethnicity and sex), anticipatory grief, relational dependence, social support and meaning making, T1 neuroticism was not significantly related to T2 CG symptoms, when entered at step 3, ß = .07.
Eisma et al. (2015)	242 bereaved, no non-bereaved	Netherlands, 87% female, *M* age = 48.7 years, *M* time since loss = 9.6 months, cause of death was natural causes (89%), violent (6%), other cause (5%), participants lost child (9%), partner (52%), parent (30%), sibling (9%)	Cross-sectional and longitudinal survey	Neuroticism Subscale of the Big Five Inventory 8 items α = .81 *M* not reported	Inventory of Complicated Grief-Revised, Dutch version 29 items, α = .95, *M* = 55.3	T1 neuroticism was positively correlated with T1 CG symptoms, r = .53, p <.01 T1 neuroticism, was positively correlated with T2 CG symptoms, r = .43, p <.01 T1 neuroticism was positively correlated with T3 CG symptoms, r = .37, p <.01. In a hierarchical regression model controlling for T1 symptoms and relevant socio demographic and loss related variables, T1 neuroticism was positively and significantly correlated with T1 CG symptoms, ß = .26, p < .01, R^2 = .30; In the same model, T1 neuroticism did not significantly predict T2 CG symptoms and T3 CG symptoms, R^2s = .00.
Gegieckaite & Kazlauskas (2020)	203 bereaved, no non-bereaved	Lithuania, 85% female, *M* age = 42.13 years, *M* time since loss = 33.11 months, cause of death was natural	Cross-sectional survey	Neuroticism Scale from the Big Five Inventory, 8 items, α = .80 *M* = 3.20	Prolonged Grief Disorder-13 Questionnaire, 13 items,	Neuroticism was positively correlated with CG symptoms, r = .40, p < .01.

		(86%),) violent (6%) other cause (9%), participants lost child (6%), partner (7%), parent (38%), sibling (6%), other family member (35%), friend (7%) or other (1%)			α = .89 *M* = 23.53	
Goetter et al. (2018)	81 bereaved, 51 with CG and 30 bereaved control	USA, 69% female, *M* age = 42.43 years, *M* time since loss was not reported, cause of death was not reported, participants lost partner (36%), parent (33%), sibling (7%), other (22%)	Cross-sectional survey	60-item Self-Report NEO Five-Factor Inventory; 12 items for each traits; α from .70 to .92; Openness: *M* = 29.24; Conscientiousness: *M* = 30.39, Extraversion: *M* = 24.12; Agreeableness: *M* = 32.02; Neuroticism: *M* = 27.78;	19-item Self-Report Inventory of Complicated Grief; α = .95; *M* = 38.76;	In separate t-tests participants with high CG symptoms compared to individuals with low CG symptoms displayed lower levels of conscientiousness, p <.001, d = 1.02, lower levels of extraversion, p <.001, d = 1.30, lower levels of agreeableness, p <.05, d = 0.55 and higher level of neuroticism, p < .001, 1.46. Openness did not significantly differ between groups, p = .87 When entering all the traits simultaneously in a logistic regression analysis predicting group membership, only neuroticism was positively associated with CG symptoms, *B* = 0.15, p < .05.
Milman et al. (2019)	357 bereaved, no non-bereaved	North America and Europe, no baseline characteristics; all following characteristics are from time two: 72% female, *M* age = 44.3 years, *M* time since loss = 6.25 months, cause of death was natural (21%), illness (64%) violent (7%) other	Longitudinal surveys	The Big Five Inventory Neuroticism Subscale, 8 items, α = .89, *M* not reported	Prolonged Grief Disorder-13, 13 items, α = .95, *M* not reported	T1 neuroticism was significantly positively related to T2 CG symptoms, r = .40, p <.01.

		cause (8%), participants lost child (4%), partner (21%), parent (35%), sibling (7%), other relatives (13%), friend (11%) or other (10%)				
Thomsen et al. (2018)	161 bereaved, no non-bereaved	Denmark, 56% female, *M* age = 65.29 years, *M* time since loss = 10.62 weeks, cause of death was illness (100%), participants lost partner (100%)	Longitudinal survey	NEO-Pir Neuroticism Subscale, 12 items α = .86, *M* = 29.49	Prolonged Grief-13 11 items α = .89 *M* = 29.58	T1 neuroticism was significantly positively associated with T1 CG symptoms, *r* = .55, *p* <.01 T1 neuroticism was significantly positively associated with T2 CG symptoms, *r* = .36, *p* <.01.
van der Houwen et al. (2010)	195 bereaved, no non-bereaved	Worldwide, 92% women, *M* age = 41.5 years, *M* time since death = 0.91 years, cause of death was natural cause (67%), violent (11%), other (23%), participants lost child (35%), partner (37%), parent (21%), sibling (7%)	Introduction longitudinal, rest cross-sectional online survey	The Big Five Inventory Neuroticism Subscale, 8-items α = .81 *M* not reported	Criteria for Complicated Grief proposed for the DSM-V 9-items α ranged from = .86 to .91, *M* not reported	In a multilevel longitudinal multiple mediation model including risk factors (gender, attachment avoidance, social support and expectedness), the direct effect of neuroticism on CG symptoms was not significant, *b* = .041, *p* > .05; In the same model, neuroticism had a significant and positive indirect effect on CG symptoms, when mediated by rumination and threatening grief interpretations, *b* = .177, p < .05; There was no interaction of time and neuroticism on CG symptoms, therefore neuroticism did not change CG symptoms over time.
Vara & Thimm (2020)	152 bereaved, no non-bereaved	Norway, 78% female, *M* age = 43.4 years, *M* time since loss = 9.8 years, cause of death was natural (80%), violent (6%)	Cross-sectional survey	NEO-five-factor Inventory-3 Neuroticism Subscale, 12 items α = .91, *M* = 1.71	Inventory of Complicated Grief, 19 items α = .92, *M* = 16.70	Neuroticism was positively and significantly associated with CG symptoms, *r* = .43, *p* <.001.

		other cause (15%), participants lost child (3%), partner (7%), parent (33%), sibling (6%), other relatives (35%), friend (15%) or other (3%)				
Wijngaards-de Meij et al. (2007)	438 bereaved participants, (219 bereaved parent couples)	Netherlands, gender not reported, *M* age = 42.2 years, time since loss = 6 months, cause of death was illness (47%), violent (36%) neonatal death (16%), participants lost child (100%)	Longitudinal surveys	Neuroticism Subscale of the Eyseneck Personality Questionnaire, Revised Short Scale, 12-items α range from = .81 to .84, *M* not reported	Inventory of Complicated Grief, 19 items α ranged from = .9 to .92, *M* not reported	Neuroticism was positively correlated to CG symptoms, $r = .51$, $p < .01$; In a multilevel analysis with time (level 1: 6, 13 and 20 months) nested within individuals (level 2) nested within couples (level 3), including gender and time as control variables, neuroticism related positively to CG symptoms, $p = .05$, $R^2 = .18$ (Model 2). When including neuroticism after adding the variable attachment into the model, neuroticism explained 9% of the variance in CG symptoms, $p < .05$, $R^2 = .09$ (Model 3).