Universiteit Utrecht

The effectiveness of an unguided online grief-specific cognitive behavioral therapy for people who have lost a loved one during the COVID-19 pandemic

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Master Thesis Clinical Psychology

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July 5, 2021

Abstract

The current COVID-19 pandemic is a disaster leading to an increase of traumatic losses worldwide. These traumatic losses consequently lead to expanding levels of complicated grief-symptoms in bereaved individuals. To overcome this rise in cases of complicated grief, the present study investigates the efficacy of an online grief-specific Cognitive Behavioral Therapy (CBT) intervention for bereaved individuals during the COVID-19 pandemic. Eligible participants were randomized to either the treatment group (*N*=21) or waitlist-control group (*N*=32). The intervention consisted of an eight-week unguided online behavioral therapy. PCBD, PTSD and depression symptom severity were assessed at 1) pre-treatment/pre-waiting period and 2) post-treatment and/or post-waiting period. Assessment consisted of clinical telephone interviews. Analyses of Covariance (ANCOVA) revealed that participants allocated to the treatment group improved significantly, in comparison to participants allocated to the waitlist-control group, on symptoms of PCBD, as well as PTSD. These results were found, while taking the use of co-interventions and baseline symptom-levels into account as covariates. As this is the first evidence-based study investigating the effectiveness of an online grief-specific CBT intervention, the results are meaningful for clinical practice.

Keywords: COVID-19, traumatic losses, complicated grief, online grief-specific Cognitive Behavioral Therapy intervention, PCBD, PTSD.

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COVID-19 and bereavement

A current disaster that individuals are dealing with worldwide, is *the COVID-19 pandemic.* As of July 2nd 2021, there have been over 180 million confirmed cases, including approximately 3.9 million deaths worldwide (World Health Organization [WHO], 2021a). In the Netherlands alone, there have been 1.6 million confirmed cases and over 17 thousand deaths (WHO, 2021b). The high death toll leads to an increasing amount of individuals losing a loved one.

At some point in life, most individuals are confronted with loss, for which grief is a normal reaction and is characterized by symptoms, such as sadness and missing the deceased, particularly in the early stages of loss (Holland et al., 2009). The majority of people recover naturally from disruptive life events like this (Newson et al., 2011). However, when focusing on natural deaths, 10 percent of bereaved individuals seem to get stuck in their grieving process and show disturbed grieving symptoms, symptoms distinct from what is considered 'normal' (Lundorff et al., 2017). Unnatural losses, which include sudden and violent deaths caused by accidents, homicides, disasters, terror and war (Kristensen et al., 2012), can be seen as traumatic losses (Djelantik et al., 2020). Reverting to COVID-19; besides the high death toll, secondary stressors and severe societal disruption make it a disaster. Hence, losses happening due to- and during COVID-19 can be considered traumatic (Djelantik et al., 2020). The percentage of bereaved individuals showing disturbing grief-symptoms after traumatic losses expands to 50 percent (Djelantik et al., 2020).

When bereaved individuals develop disturbed symptoms of grief, and when these symptoms present themselves at a time beyond which is considered adaptive, we speak of a state of *complicated grief* (Lobb et al., 2010; Prigerson et al., 2009). The symptoms of complicated grief are separation distress, intense yearning for the deceased person, preoccupation with the deceased,

difficulty accepting the loss and feeling detached from others (Boelen & van den Bout, 2005; Boelen et al., 2019). There is evidence that complicated grief is associated with marked functional impairment and significant suffering (Boelen & Prigerson, 2007; Prigerson et al., 1996, 2009; Silverman et al., 2000).

Persistent Complex Bereavement Disorder (PCBD)

Symptoms of complicated grief are described in the *Diagnostical and Statistical Manual of Mental Disorders* (DSM-5) under Persistent Complex Bereavement Disorder (PCBD; American Psychiatric Association [APA], 2013a). Symptoms include, among other things, an intense yearning for the deceased, intense sorrow, preoccupation with the deceased and circumstances of the death, marked difficulty accepting the death, anger related to the loss and/or excessive avoidance of reminders of the loss. In order to be diagnosed with PCBD, the symptoms have to be present at a clinically significant level, at least one year after bereavement (APA, 2013a; Boelen et al., 2019).

There is an overlap between symptoms of PCBD with depression and post-traumatic stress disorder (PTSD), while often still being distinguishable (Bonanno et al., 2007; Lenferink et al., 2020). PCBD is mainly defined by symptoms of intense separation distress, which is not represented by any other disorder (Prigerson et al., 2008). In comparison to depression; the pervasive low mood commonly seen in depressive episodes seems to be distinct from the despair and low mood seen in PCBD, which is related to separation from the deceased. In addition, rumination seems to have a different orientation in both disorders (Duffy & Wild, 2017). As for the overlap between PCBD and PTSD, it has been found that common factors, such as intrusions and intense emotions, are focused around fear, anxiety, anger and guilt within PTSD, whereas in PCBD the emotional response is mostly focused on yearning for the deceased, loss and/or emptiness (Duffy et al., 2017).

PCBD appears to be a predictor of adverse physical and psychological outcomes such as suicidality, heart problems and psychological adjustment (Holland et al., 2009). In short, PCBD is a distinctive disorder that is affected by specific factors and in need for specialized treatment (Boelen et al., 2010; Duffy et al., 2017).

Risk factors for developing PCBD

There are several risk factors for developing PCBD after the loss of a loved one. These factors relate to one's own personal characteristics (e.g. tendency to dependence), the relationship one has had with the deceased person (e.g. attachment style) and the characteristics of the death of the deceased person (e.g. traumatic circumstances) (Lobb et al., 2010).

At least five COVID-19-related factors seem to play a role in heightening the risk of bereaved individuals suffering from PCBD, during the COVID-19 pandemic. Specifically, the unexpectedness of the deaths, the lack of physical social support (Lobb et al., 2010), secondary COVID-related stressors, multiple losses, presumed responsibility for the death (Eisma et al., 2020) and the absence of traditional grief-rituals (Castle & Phillips, 2003).

Due to the COVID-19 pandemic it is anticipated that, worldwide, cases of complicated grief and therefore PCBD will increase drastically (Boelen et al., 2019; Eisma et al., 2020, 2021). To deal with and overcome this problem, there is a need for effective interventions.

Interventions for PCBD and adaptations due to COVID-19

Within the mental health care system in the Netherlands, face-to-face Cognitive Behavioral Therapy (CBT) is considered the most effective treatment for PCBD (Boelen & Smid, 2017b; Boelen & van den Bout, 2017; de Keijser & Boelen, 2019; Doering & Eisma, 2016; Duffy et al., 2017; Johannsen et al., 2019). Grief-specific CBT consists of exposure, cognitive restructuring and behavioral activation. Through exposure, patients learn to engage with difficult memories and associated emotions. Cognitive restructuring entails modifying negative global beliefs and

misinterpretations of grief-reactions. Lastly, behavioral activation is a technique to motivate bereaved individuals to functionally engage in their altered environment (Duffy et al., 2017).

Because of the COVID-19 pandemic, interventions within the mental health care system need to be delivered from a distance, i.e. online. As this also applies for interventions for grief-related distress, it is important to develop online treatments specifically for grief-related distress, such as PCBD (Eisma et al., 2021). To date, only four studies have examined the effectiveness of online CBT-based interventions for grief-related distress (Eisma et al., 2015; Kersting et al., 2013; Litz et al., 2014; Wagner et al., 2006). The general outcome of these four studies was that online CBT-based interventions seemed to be effective in reducing symptoms of complicated grief, PTSD and depression in bereaved individuals. However, these studies had several limitations, including biased samples (Kersting et al., 2013; Litz et al.., 2014; Wagner et al., 2006), restricted sample sizes (Eisma et al., 2015) and the use of quantitative self-rating questionnaires (Eisma et al., 2015; Kersting et al., 2013; Litz et al., 2014; Wagner et al., 2006). Limitations in- and scarceness of studies examining the effectiveness of online grief-specific CBT interventions make it valuable to do further research (Boelen et al., 2017).

Aim of the current study

Therefore, the aim of the current study is evaluate the effectiveness of an online unguided grief-specific CBT intervention in reducing PCBD and PTSD symptoms for bereaved individuals during the COVID-19 pandemic (vs. waitlist-controls). PTSD will also be considered because of the explained overlap with PCBD (Bonanno et al., 2007; Lenferink et al., 2020). Due to the scope of this thesis, depression will not be taken into account.

The first research question concerns demographical factors, as these can have a potential effect on the development and trajectories of grief-related symptoms (Burke & Neimeyer, 2013; Kersting et al., 2011; Lundorff et al., 2020; Zonnebelt-Smeenge & DeVries, 2003). The research

question is: ‘‘Are there differences on baseline-level demographics (i.e. age, gender, education, ethnicity and relationship with deceased) between the two research groups?’’. As this concerns an exploratory research question, no hypotheses have been composed.

The second research question is: ‘‘What is the effectiveness of unguided online grief-specific CBT in reducing symptoms of PCBD and PTSD for bereaved individuals during the COVID-19 pandemic, in comparison to the waitlist-control group?’’.

Previous research has shown CBT interventions to be effective in reducing PCBD- and PTSD-symptoms (Boelen & Smid, 2017b; Boelen & van den Bout, 2017; de Keijser & Boelen, 2019; Doering & Eisma, 2016; Duffy et al., 2017; Johannsen et al., 2019). Furthermore, studies examining the effectiveness of online grief-specific CBT-interventions have shown promising results (Eisma et al., 2015; Kersting et al., 2013; Litz et al., 2014; Wagner et al., 2006). Accordingly, the first hypothesis states that individuals allocated to the treatment group will show lower symptom-levels of PCBD post-treatment, in comparison to the waitlist-control group post-waiting period, when controlling for baseline symptom-levels and possibly co-interventions. The second hypothesis states that individuals allocated to the treatment group will show lower symptom-levels of PTSD post-treatment, in comparison to the waitlist-control group post-waiting, when controlling for baseline symptom-levels and possibly co-interventions.

Method

Participants

Ninety-six participants were interviewed and eventually, 65 individuals were suitable for participation. The research sample consisted of 10 men and 59 women (age: M = 54, *SD = 13*). Participants needed to meet the following inclusion criteria: having lost a family member, spouse or friend during the COVID-19 pandemic (March 2020 – present), at least three months earlier. Individuals who had lost a loved one due to COVID-19 were also included. Further inclusion

criteria were clinically relevant depression, PTSD and/or PCBD symptoms. Exclusion criteria were 1) no mastery of the Dutch language, 2) no access to the internet, 3) suffering from a psychotic disorders and/or 4) suicidality. Recruitment of participants occurred through GGZ-Friesland, Psychotraumacentrum Zuid-Nederland, ARQ Centrum '45, municipalities severely affected by COVID-19 and www.rouwencorona.nl. Besides this, messages were posted in newspapers and through social media platforms, such as Facebook, Twitter and LinkedIn .

Procedure

Participants received an information letter including an informed consent form, which they needed to sign. Those who signed the informed consent form were approached by phone, for a clinical telephone interview (T1, see Appendix A). This was carried out by a trained psychologist, who was one of the researchers. The interview was aimed to last around 30. Firstly, participants were asked about demographics (e.g. gender, age and nationality). Subsequently, participants were asked if they have ever been diagnosed with a psychotic disorder. If this was the case, the interview was stopped prematurely. Secondly, participants were asked loss-related questions (e.g. relation with deceased and cause of death) and COVID-19-related questions (e.g. having had the virus). Lastly, the Traumatic Grief Inventory (TGI-CA; Boelen et al., 2019), The PTSD Checklist for DSM-5 (PCL-5; Blevins et al., 2015) and the Patient Health Questionnaire-9 (PHQ-9; Kroenke & Spitzer, 2002) were administered. If participants answered the PHQ-9 suicidality question with anything different from 'not at all', several questions from the suicide-protocol were asked. The PHQ-9 falls out of the scope of the current research and is not used in the analysis

After the interview, eligible participants were randomized to the treatment- or waitlist-control group. Due to the design of the RCT, blinding the researcher and participants to allocation was not feasible, which is why a random number generator was used (www.random.org). An allocation ratio of 1:1 was applied. Within one week after randomization, the treatment group

started treatment. One week post-treatment, they were interviewed again (T2), using the same questions as during the baseline interview, except for background and loss-related questions The waitlist-control group was interviewed for a second time, after an eight-week waiting period (T1a). Thereafter, they started treatment. One week post-treatment, the waitlist-control group was interviewed for a third and last time (T2).

Instruments

Traumatic Grief Inventory – Clinician Administered (TGI-CA)

A clinician administered version of the TGI-CA (Boelen et al., 2019) was used to assess symptom-levels of PCBD (see Appendix A). This instrument is based on the Traumatic Grief Inventory Self Report (TGI-SR; Boelen & Smid, 2017), for which the items were reformulated from statements to questions. The first 18 items of the TGI-CA were used, corresponding with PCBD as stated in the DSM-5 (APA, 2013a). Every item was scored on a five-point Likert scale ranging from one (= never) to five (= always). An example of an item would be 'Did you, in the last month, had difficulties accepting the death of… '. Participants were considered to report clinically relevant PCBD levels when at least one 'sometimes' on at least one criterion B symptom was scored (item 1, 2, 3 and 14), at least six criterion C symptoms were scored (item 4 up to 11 and item 15 up to 18), the criterion D symptom was validated (item 13) and/or a total score of 54 or higher on item 1 through 18 was reported (Boelen et al., 2018). The psychometric properties of the TGI-CA are adequate (Boelen et al., 2017).

PTSD Checklist for DSM-5 (PCL-5)

The PCL-5 (Blevins et al., 2015) was used to asses symptom-levels of PTSD, according to the DSM-5 (APA, 2013b) (see Appendix A). The PCL-5 consists of 20 items for which participants rate how often they were bothered by stated symptoms. Items were scored on a five-point Likert scale ranging from zero (= not at all) to four (= extremely high). The instructions as well as the

items of the original questionnaire were altered from referring to ‘the stressful experience’ to ‘the death of your loved one(s) during the COVID-19 pandemic’. An example of an item would be ‘In the past month, how much were you bothered by repeated, disturbing, and unwanted memories of the death of your loved one(s) during the COVID-19 pandemic? Each item rated as at least two (= moderately) was treated as a symptom endorsed. Then, the DSM-5 diagnostic rule (APA, 2013) was followed, which requires at least one criterion B item (items 1-5), one criterion C item (items 6-7), two criterion D items (items 8-14), two E items (15-20) and/or report a total score of 31 or higher. Psychometric properties are adequate (Blevins et al., 2015).

Intervention

The investigational treatment is an online grief-specific unguided cognitive behavioral therapy (CBT), targeted at people with clinically relevant levels of PCBD, PTSD and/or depression, at least three months after the loss. Again, due to the scope of this master thesis, the focus will solely lie on PCBD and PTSD. The investigational treatment is based on the face-to-face CBT protocol for the treatment of PCBD, following the Dutch guidelines for mental health care (Boelen & van den Bout, 2017).

The online intervention consists of eight weekly sessions. Central components of the treatment are exposure, cognitive restructuring and behavioral activation. Firstly, psychoeducation is provided about possible emotional reactions to the loss of a loved one during the COVID-19 pandemic and processes that might foster recovery. It is tailored to the population in a way that information is provided about distress, particularly relevant for this population, such as the impact of the absence of traditional grief-rituals. Secondly, there are several sessions of exposure including its rationale, which consists of recollecting the story of the loss in detail and confronting stimuli that one tends to avoid. Thirdly, there is a focus on identifying and changing negative cognitions that block adjustment, specifically cognitions connected to responsibility, guilt and fear, which may be

elevated in times of COVID-19 (Eisma et al., 2020). Lastly, the participants are encouraged to reengage in previously valued social and occupational activities in order to foster adjustment. The intervention is provided online, through a secure website 'www.therapieland.nl' (Therapieland, n.d.).

Co-interventions used by participants are allowed during the intervention. To take the potential effects of co-interventions in account, the following question will be used during the baseline-interview: 'During the past eight weeks, did you receive additional psychological professional support from a psychologist, therapist or psychiatrist for dealing with your emotional problems?'.

Processing and analyzing the data

Statistical analyses were carried out using IMB Statistical Package for Social Sciences Statistics (version 26) (IMB Corp., 2019). In order to answer the exploratory first research question, possible differences on baseline-level demographics (i.e. age, gender, education, ethnicity and relationship with deceased), between the treatment- and waitlist-control group, were tested using independent sample T-tests and Chi-squared tests.

For exploring the demographic 'age', an independent sample T-test was executed. Herein, age was the dependent variable and condition (treatment- or waitlist-control group) was the independent variable. The assumptions of scale of measurement, independence, outliers, normality and homogeneity of variances were checked (see Appendix B).

The demographics 'education', 'gender', 'ethnicity' and 'relationship with deceased' were explored using Chi-squared tests, in which the demographics were the dependent variables and condition (treatment- or waitlist-control group) the independent variable.

In order to test the second research question and both hypotheses, the effectiveness of the online grief-specific CBT intervention was tested using two separate Analyses of Covariance

(ANCOVA). The dependent variables were T2 symptom-levels of PCBD and PTSD. The independent variable was condition (treatment- or waitlist-control group). Analysis was carried out, while statistically controlling for the covariates baseline symptom-levels and the use of co-interventions. Before analyzing the data, possible outliers and assumptions of normality, linearity, homogeneity of regression slopes, homogeneity of variance and independence of covariates were checked (See Appendix C, D, E, F, G, H).

Results

Research question 1.

The first research question was: ‘‘Are there differences on baseline-level demographics (i.e. age, gender, education, ethnicity and relationship with deceased) between the two research groups?’’. To answer this research question and evaluate possible differences on baseline-level demographics, a randomization check was conducted by carrying out a T-test (for: age) and Chi-squared tests (for: gender, education, ethnicity and relationship with deceased).

The assumptions of the independent sample T-test were met (see Appendix B). As the variables used in the Chi-squared tests were all categorical and consisting of at least two groups, assumptions for the Chi-squared tests were met as well.

The first research question can be answered as follows: no statistically significant differences were found between the treatment- and waitlist-control group on baseline-level demographics (Table 1).

Table 1

Baseline-level Demographics of Participants in the Treatment- and Waitlist-Control Group

Demographics	Waitlist-control group (*N*=32)	Treatment group (*N*=21)	Statistical significance
Age - M(SD)	55(15)	54(10)	p>.05
Sex – no. (%)			p>.05
Female	25 (78.1)	20 (95.2)	
Male	7 (21.8)	1 (4.8)	
Education – no. (%)			p>.05
Lower education	14 (43.7)	9 (42.9)	
Higher education	18 (56.3)	12 (57.1)	
Ethnicity – no. (%)			p>.05
Dutch	28 (87.5)	20 (95.2)	
Other	4 (12.5)	1 (4.8)	
Relationship with deceased – no.			p>.05
Partner	13	9	
Child	-	2	
Parent	16	7	
Sibling	-	3	
Grandmother/father	1	-	
Friend	1	-	
Mother/Father in law	1	-	

Note. M(SD) values are means and standard deviations.

Research question 2.

The second research question was: ‘‘What is the effectiveness of unguided online grief-specific CBT in reducing symptoms of PCBD and PTSD for bereaved individuals during the COVID-19 pandemic, in comparison to the waitlist-control group?’’.

Covariates

Besides the independent variable condition, the covariates baseline symptom-levels of PCBD, baseline symptom-levels of PTSD and the possible use of co-interventions are variables that could have an effect on T2 symptom-levels of PCBD and PTSD. Therefore, those variables should be included as covariates in the analyses. The covariates need to be equal across both the treatment-

and waitlist-condition at T1. Only then, differences between the treatment- and waitlist-control group on the covariates will be controlled for. To test this, an Analysis of Variance (ANOVA) was conducted. Results show an insignificant effect of condition on both covariates (see Table 2), which means that baseline symptom-levels and the use of co-interventions did not differ between the treatment- and waitlist-control group and could be used as covariates in the analysis.

Table 2

ANOVA for the Effect of Condition on the Covariates

Covariate	*df*	*F*	*p*
T1 symptom-levels of PCBD	1.51	1.78	.19 (>.05)
T1 symptom-levels of PTSD	1.12	.71	.41 (>.05)
Co-interventions	1.51	.06	.81 (>.05)

Note. df = degrees of freedom. F = F value. *p* = significance.

Hypothesis 1

The first hypothesis that was formulated stated that individuals allocated to the treatment group would show lower symptom-levels of PCBD post-treatment, in comparison to the waitlist-control group post-waiting period, when controlling for baseline symptom-levels and possibly co-interventions. Before executing the ACOVA to test the first hypothesis, assumptions were checked.

ANCOVA assumptions for PCBD. The assumptions of normality, homogeneity of variance and homogeneity of regression slopes were met (see Appendix C, D1, E1). Boxplots for condition and T2 symptom-levels of PCBD showed that there was one outlier (see Appendix C2). The scores of T2 symptom-levels of PCBD for this outlier were realistic, so included. The assumption of linearity was met for baseline symptom-levels of PCBD and T2 symptom-levels of PCBD (see Appendix F1). This assumption was not met for the covariate use of co-interventions and T2 symptom-levels of PCBD (see Appendix F2), however, it was still taken into account for analysis.

Results of ANCOVA for PCBD. ANCOVA analysis showed that the covariate baseline symptom-levels of PCBD was significantly related to T2 symptom-levels of PCBD, $F(1.49) = 47.05$, $p < .05$ *(p=.01)*, *partial* $n^2 = .49$. The covariate use of co-interventions was not significantly related to T2 symptom-levels of PCBD, $F(1.49) = 2.04$, $p > .05$ *(p=.16).* This means that for both groups, T2 symptom-levels of PCBD were not predicted by the use of co-interventions, but were, for 49 percent, predicted by the baseline symptom-levels of PCBD.

As hypothesized, condition had a significant effect on T2 Symptom-levels of PCBD, when controlling for the effect of the use of co-interventions and baseline symptom-levels, $F(1,49) = 18.29$, $p < .05$ ($p = .01$), *partial* $n^2 = .27$. The effect size of condition could be interpreted as large. Twenty-seven percent of variability in T2 symptom-levels of PCBD could be accounted for by condition. The effect of condition on T2 symptom-levels of PCBD is showed numerously in Table 3 and graphically in Figure 1.

Table 3

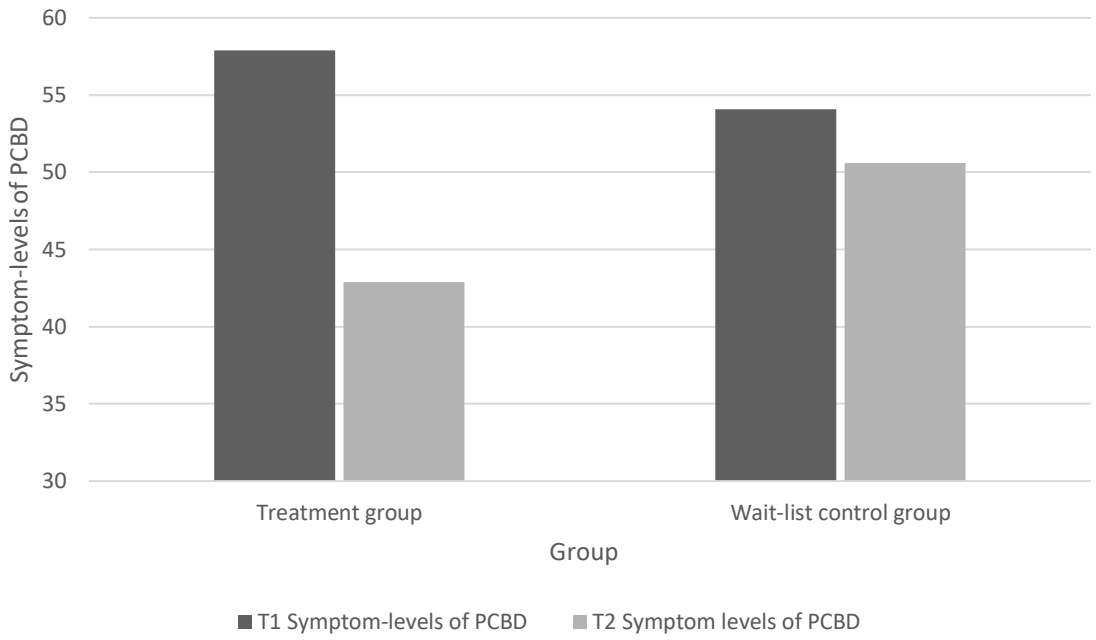
T1 and T2 Symptom-Levels of PCBD for the Treatment- and Waitlist-Control Group

	Treatment group (*N*=21)	Waitlist-control group (*N*=32)
T1 levels of PCBD		
Mean	57.9	54.1
SD	8.4	11.1
T2 levels of PCBD		
Mean	42.9	50.6
SD	11.0	12.8

Note. Mean = average symptom-level of PCBD. SD = standard deviation.

Figure 1

Intervention-effects on PCBD Symptom-levels for the Treatment- and Waitlist-Control Group



Hypothesis 2.

The second hypothesis that was formulated stated that individuals allocated to the treatment group would show lower symptom-levels of PTSD post-treatment, in comparison to the waitlist-control group post-waiting, when controlling for baseline symptom-levels and possibly co-interventions.

ANCOVA assumptions for PTSD. The assumptions of normality and homogeneity of variance were met (see Appendix G, D2). The assumption of homogeneity of regression slopes was met for the interaction between condition and the use of co-interventions. It was not met for the interaction between condition and T1 symptom-levels of PTSD (see Appendix C2). The assumption of linearity was met for baseline symptom-levels of PTSD and T2 symptom-levels of PTSD (see Appendix H1). This assumption was not met for the covariate use of co-interventions and T2 symptom-levels of PTSD (see Appendix H2), however, it was still taken into account for analysis.

Results of ANCOVA for PTSD. ANCOVA analysis showed that the covariate baseline symptom-levels of PTSD was significantly related to T2 symptom-levels of PTSD, $F(1.49) = 33.92$, $p < .05$ *(p=.01)*, *partial* $n^2 = .41$. The covariate use of co-interventions was not significantly related to T2 symptom-levels of PTSD, $F(1.49) = .36$, $p > .05$ *(p=.55)*. This means that for both groups, T2 symptom-levels of PTSD were not predicted by the use of co-interventions, but were, for 41 percent, predicted by the baseline symptom-levels of PTSD.

As hypothesized, condition had a significant effect on T2 symptom-levels of PTSD, when controlling for the effect of the use of co-interventions and baseline symptom-levels, $F(1,49) = 8.82$, $p < .05$ ($p = .005$), *partial* $n^2 = .15$. The effect size of condition could be interpreted as large. Fifteen percent of variability in T2 symptom-levels of PTSD could be accounted for by condition. The effect of condition on T2 symptom-levels of PTSD is showed numerously in Table 4 and graphically in Figure 2.

Table 4

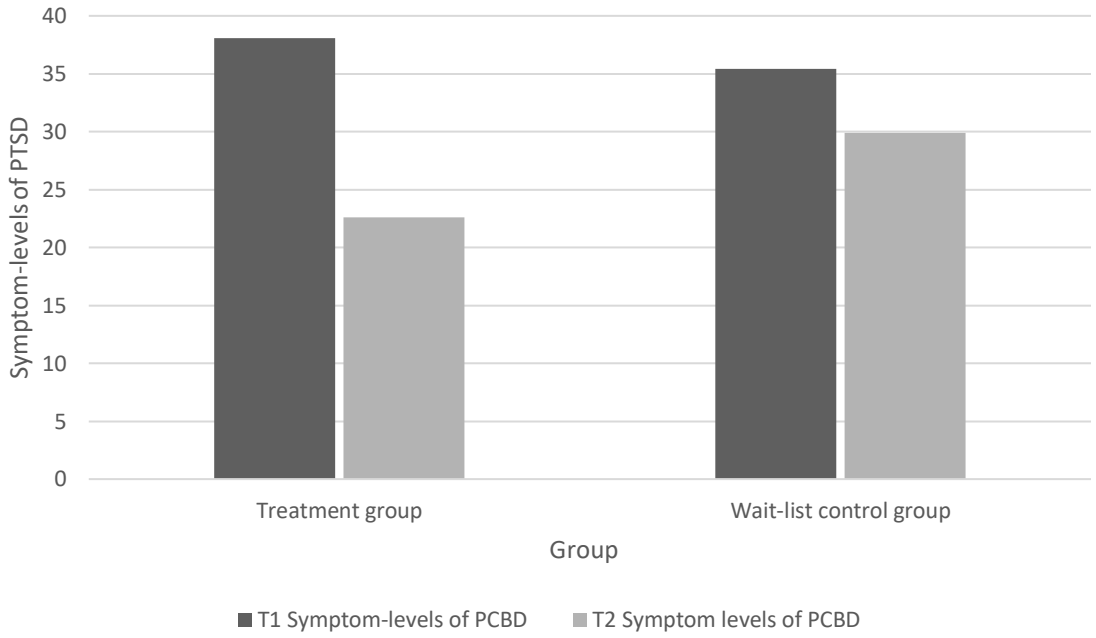
T1 and T2 Symptom-Levels of PTSD for the Treatment- and Waitlist-Control Group

	Treatment group (*N*=21)	Waitlist-control group (*N*=32)
T1 levels of PTSD		
Mean	38.1	35.4
SD	9.3	12.8
T2 levels of PTSD		
Mean	22.6	29.9
SD	12.5	15.3

Note. Mean = average symptom-level of PCBD. SD = standard deviation.

Figure 2

Intervention-effects on PCBD Symptom-levels for the Treatment- and Waitlist-Control Group



Discussion

Research findings

The current study evaluated the effectiveness of an online unguided grief-specific CBT intervention in reducing PCBD and PTSD symptoms (APA, 2013a,b) for bereaved individuals during the COVID-19 pandemic (vs. waitlist-controls). Thus far, face-to-face CBT has been considered to be most effective in reducing PCBD-symptoms in the bereaved (Boelen & Smid, 2017b; Boelen & van den Bout, 2017; de Keijser & Boelen, 2019; Doering & Eisma, 2016; Duffy et al., 2017; Johannsen et al., 2019). However, due to COVID-19 safety concerns, clinical interventions are currently being provided from a distance. Consequently, an online grief-specific CBT intervention is a necessity. Due to the scarceness and previously appointed limitations of conducted research on the effectiveness of online grief-specific CBT interventions for PCBD (Eisma et al., 2015; Kersting et al., 2013; Litz et al., 2014; Wagner et al., 2006), the current study was conducted.

The first research question that was answered was whether there was a difference on baseline-level demographics (e.g. gender, age and education) between the research group and waitlist-control group, a randomization check. Results showed no significant differences on baseline level demographics, between the research- and waitlist-control- group, as could be expected due to randomization of participants.

The second research question that was studied was the question of whether the online grief-specific CBT intervention was effective in reducing PCBD- and PTSD-symptom levels in bereaved individuals during COVID-19. PCBD- and PTSD-symptom levels were compared between the treatment group, after receiving treatment, and the waitlist-control group, after a waiting period.

The first hypothesis stated that individuals allocated to the treatment group would show lower symptom-levels of PCBD post-treatment, in comparison to the waitlist-control group post-waiting. Found results were as hypothesized and in line with previous research (Eisma et al., 2015; Kersting et al., 2013; Litz et al., 2014; Wagner et al., 2006). Individuals in the treatment group showed lower symptom-levels of PCBD post-treatment, in comparison to the waitlist-control group, post-waiting. These results were found when controlling for baseline symptom-levels of PCBD and the eventual use of co-interventions. The first hypothesis was confirmed.

The second hypothesis of the study stated that individuals allocated to the treatment group would show lower symptom-levels of PTSD post-treatment, in comparison to the waitlist-control group post-waiting. This was expected due to discussed overlap between PCBD and PTSD (Bonanno et al., 2007; Lenferink et al., 2020). Bereaved individuals receiving the online CBT treatment showed significantly lower symptom-levels of PTSD post-treatment, in comparison to the waitlist-control group, post-waiting. The second hypothesis was confirmed as well.

The use of co-interventions had no effect on symptom-levels of PTSD post-treatment. Baseline symptom-levels of PTSD did influence post-treatment symptom-levels of PTSD. Due to

interaction, it can be concluded that for the waitlist-control group, T2 symptom-levels of PTSD were significantly dependent on baseline symptom-levels of PTSD. For the treatment group, this dependence was significantly lower. As can be expected due to intervention of the treatment.

Analysis found a significant effect of the online grief-specific CBT-intervention on symptom-levels of PCBD, as well as PTSD, with a stronger effect found for PCBD. This difference in effect-size can be explained due to the fact that the current intervention was based on a grief-specific CBT protocol (Boelen et al., 2017) and did not include specific PTSD-interventions, such as trauma-focused CBT and Eye Movement Desensitization and Reprocessing (EMDR) (National Institute for Health and Care Excellence, 2018).

Strengths of the current research

Several strengths of the current research can be identified. A significant one is that the data was gathered through clinical interviews by a trained psychologist, preventing self-report bias. A second strength of the current study has to do with the intervention being provided online. Several studies found online-provided CBT to be as effective as face-to-face CBT, for various disorders (Luo et al., 2020; Peter et al., 2019; Spence et al., 2011). A meta-analysis of Johanssen et al., (2019) found moderate to large treatment effects for online-provided CBT, specifically for bereaved individuals. In addition, online interventions are easily accessible, cost-effective and time-efficient (Eisma et al., 2015). Time efficiency is realized due to the online structured treatment protocol, which enables individuals to complete the program in a relatively short amount of time. Accessibility and cost-effectiveness are further strengthened by the fact that the current intervention is offered free of charge. Furthermore, the current online grief-specific CBT-intervention was developed and provided as an unguided intervention, accordingly, it overcomes significant limitations seen in guided online interventions, such as feasibility to respond accurately to a patient's emotional state (Boelen et al., 2020; Wright & Caudill, 2020). Summarizing, the current

intervention does not only help bereaved individuals improve clinically, but also generates societal savings.

Furthermore, all participants, independently of the condition they were randomized to, were able to receive the online CBT-intervention on their PCBD-, PTSD- and/or depression-symptoms.

Limitations of the current research

The present analysis provides valuable insights into grief-specific interventions, however, it has several limitations that are worth noting. One important limitation of the current research is that the concealment of group allocation from participants as well as from the researchers was not feasible because of the research design. This might have led to a risk of bias, with regard to therapy expectancy. This means that it could be that individuals allocated to the treatment group had positive expectations about their symptoms decreasing, which in turn, besides the intervention itself, could have had a positive effect on reducing their grief-related distress (Smith et al., 2018).

As stated earlier, both the treatment group and the waitlist-control group receiving the online CBT-intervention is beneficial. Nonetheless, the waitlist-control group receiving the intervention post-waiting, will result in difficulties during a follow-up period, when long-term effects would be valuable to study, as there would be no control group.

Another limitation of the current study could be the way participants were recruited. Bereaved individuals that were approached were so, mainly, by the internet. This particularly excludes individuals who don't have access to the internet, which makes it viable that a group of individuals (e.g. being older of age) didn't get approached by the researchers or felt reluctant due to the intervention being provided online. This leads to the question of the results being generalizable or not. Furthermore, as participants were recruited by means of announcements on the internet and from Mental Health organizations, the research sample probably consists of individuals who were already looking for help, enhancing the chances of therapy expectancy bias. Generalization of the

results is further infected by the fact that 85% of participants were female. An observation that is often seen in studies concerning interventions for grief-related distress (Kersting et al., 2013).

Lastly, there is a relatively high drop-out. This might be because of the challenging content of the intervention. Especially exposure is a component some individuals might find deterrent (McGuire et al., 2018; Reid et al., 2017). A possible solution for this will be suggested beneath.

Suggestions for future research

The current study suggests several directions for future research with regard to (online) grief-specific CBT. As stated above, the limitation of a high drop-out is in all probability due to the fact of challenging components found within the intervention. To overcome this problem in future research, an idea is to develop a guided online grief-specific CBT intervention. The intervention being guided by a trained psychologist, makes it possible for clients to stay more motivated to continue treatment, for example by recurrent psychoeducation, therapeutic alliance and early identification of warning signs (O'Keeffe et al., 2018).

The currently researched intervention contributes to the accessibility of treatment, due to the fact that it's provided online. To make it even more accessible, an idea for future research is to develop and study the current online CBT-intervention in different languages. As the current intervention is unguided, it could be translated into different languages and be disseminated to countries where there are few trained psychologists. The intervention will then, substantially, be able to overcome cultural barriers such as stigma, language and communication difficulties (Choi et al., 2012).

Value of current research

On account of found effects, it can be concluded that the current intervention is effective in reducing symptom-levels of PCBD and PTSD in bereaved individuals during the COVID-19 pandemic. The results are valuable to the existing knowledge regarding the effectiveness of online

grief-specific CBT interventions. As there is no previous evidence-based research of online grief-specific CBT, the results of the current study are exceptionally valuable for clinical practice.

Even when the pandemic is over, remotely delivered CBT for the treatment of PCBD will not lose its value, as it improves the accessibility of treatment greatly (Boelen et al., 2020; Eisma et al., 2015). The current research is a big step in the right direction for the improvement of treatment options for a small, but significant, group of individuals who experience difficulty overcoming grief by themselves.

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Appendix A

Clinical Telephone Interview

Intro [Deelnemer neemt telefoon op]

Interviewer: Hallo [naam deelnemer], u spreekt met [naam interviewer] van de Universiteit Utrecht. Wij hebben een belafspraak in verband met uw mogelijke deelname aan het wetenschappelijk onderzoek “Online behandeling voor nabestaanden van wie een dierbare is overleden tijdens de coronacrisis”. Zoals afgesproken wordt op basis van uw antwoorden bepaald of u in aanmerking komt voor deelname aan het onderzoek. Dat interview zal nu plaatsvinden en duurt ongeveer 30 minuten. Is dit een geschikt moment voor u? [Indien nee, plan een andere dag en/of tijdstip]

Bent op u op dit moment op een rustige plek waar u vrijuit vragen kunt beantwoorden zonder dat u afgeleid wordt door uw omgeving? [Indien nee, adviseer de deelnemer om een rustige plek op te zoeken]

Voordat ik begin met het stellen van de vragen, leg ik eerst kort uit hoe het interview is opgebouwd. Het interview is opgebouwd in twee delen. Deel 1 bestaat uit vragen over uw achtergrond (zoals bijvoorbeeld uw leeftijd). Vervolgens zal ik een aantal vragen stellen over de achtergrond van uw dierbare die is overleden en over hulp die u mogelijk heeft ontvangen.

Deel 2 bestaat uit vragen over emotionele reacties die u mogelijk heeft ervaren. Wij stellen iedereen die deelneemt aan dit onderzoek dezelfde vragen zodat wij straks de antwoorden met elkaar kunnen vergelijken. Wij vragen u straks om antwoord te geven en daaraan een getal te verbinden. Wij vragen u bijvoorbeeld te antwoorden op een schaal van 1 t/m 5, waarbij 1 nooit is

en 5 altijd is. Dit voelt misschien wat onwennig, maar in het kader van het onderzoek is het belangrijk dat ieder antwoord een cijfer krijgt, zodat wij straks met deze gegevens uitspraken kunnen doen over hoe mensen omgaan met een verlies.

Kies telkens alstublieft het antwoord dat het meest op u van toepassing is. Er zijn geen goede of foute antwoorden. Zoals aangegeven in de informatiebrief willen wij uw onderzoeksgegevens en die van andere deelnemers gebruiken om de emotionele gevolgen van een overlijden van een dierbare in kaart te brengen. Wij zullen uitspraken doen op groepsniveau en nooit over individuen. Uw antwoorden op de vragen die straks worden gesteld worden gescheiden opgeslagen van uw naam en contactgegevens. Hierdoor beschermen wij uw privacy. Heeft u op dit moment vragen voor mij? Dan zou ik nu graag willen starten met het eerste deel van het interview

Datum van vandaag is (dd-mm-jjjj)

_____

ID nummer van deelnemer

_____

Dit interview begint met een aantal vragen over u en uw dierbare die is overleden.
De vragenlijst begint met een aantal algemene vragen.

[Instructie interviewer: Stel a.u.b. alleen de vraag. De antwoorden alleen oplezen indien noodzakelijk]

Wat is uw geslacht?

- Man
- Vrouw
- Anders

Wat is uw geboortedatum? (dd-mm-jjjj)

_____

Wat is uw geboorteland?

_____

Wat is uw hoogst genoten opleiding die u met een diploma hebt afgerond?

- Lagere school
- Middelbare school
- Beroepsonderwijs
- Hogeschool of universiteit

Hoe bent u op de hoogte gesteld van dit onderzoek?

- Via Psychotraumacentrum Zuid-Nederland

- Via Centrum ‘45
- Via GGZ Friesland
- Een familielid, vriend(in) of andere bekende
- Berichtgeving in de media, zoals internet, t.v. en krant
- Weet ik niet
- Anders, namelijk: _____

Heeft u ooit een diagnose ontvangen voor een psychotische stoornis van een psycholoog, therapeut of een psychiater?

- Nee
- Ja

[indien antwoord op vorige vraag “ja” is]

U geeft aan dat u een diagnose voor een psychotische stoornis heeft ontvangen. Dit interview kan negatieve reacties en emoties oproepen. Daarom wil ik dit interview voor uw eigen veiligheid nu beëindigen. Gaat u hiermee akkoord? Ik wil u bedanken voor uw openheid en eerlijkheid. Heeft u nog vragen voor mij op dit moment? Dan wil ik u nogmaals hartelijk danken voor uw interesse in deelname aan het onderzoek.

Einde interview

De volgende vragen gaan over uw overleden dierbare(n).

Is een dierbare van u overlijden tijdens de coronacrisis die is begonnen in maart 2020.

O ja

O nee (indien nee beëindig het interview)

Hoeveel dierbaren van u zijn overleden sinds maart 2020?

- 1
- 2
- 3
- 4

Wat is uw relatie met de overleden dierbare?

De dierbare is mijn:

- Partner
- Kind
- Vader/moeder
- Broer/zus
- Opa/oma
- Kleinkind
- Vriend(in)
- Geen van bovenstaande, namelijk mijn:

[Instructie interviewer: Vervang [___] door de naam van de overledene of relatie tot overledene,

bijvoorbeeld "Op welke leeftijd is Jan overleden?" OF "Op welke leeftijd is uw man overleden?"]

Op welke leeftijd is [____] overleden?

[getal]

_____

Wat is de datum waarop [____] is overleden? (dd/mm/jjjj)

_____

Wat is de oorzaak van het overlijden van [____]?

- Corona
- Lichamelijke ziekte (bijvoorbeeld ouderdom, kanker, hart- en vaatziekten, bij geboorte overleden)
- Ongeval (bijvoorbeeld ongeluk, verkeersongeval, verdrinking, vergiftiging)
- Zelfdoding
- Moord of doodslag
- Anders, namelijk: _____
-

Heeft u de uitvaart van uw overleden dierbare bij kunnen wonen?

- Ja, ik was bij de uitvaart aanwezig
- Ja, ik heb de uitvaart online gevolgd
- Nee, ik kon niet bij de uitvaart aanwezig zijn
-

In hoeverre heeft u het overlijden van [____] als onverwacht beleefd?

1 is helemaal niet onverwacht, 2 is een beetje onverwacht, 3 Nogal onverwacht, 4 is erg onverwacht, en 5 is volledig onverwacht.

- 1, Helemaal niet onverwacht
- 2, Een beetje onverwacht
- 3, Nogal onverwacht
- 4, Erg onverwacht
- 5, Volledig onverwacht

In hoeverre heeft u afscheid kunnen nemen van uw overleden dierbare?

- 1, Helemaal niet
- 2, Een beetje
- 3, Enigszins
- 4, Voldoende
- 5, Goed

[indien meerdere dierbaren zijn overleden tijdens coronacrisis herhaal vragen op pag. 5 t/m 7]

De volgende vragen gaan over de impact van het coronavirus

Heeft u het coronavirus (gehad)?

- Ja
- Nee
- Weet ik niet

Indien, ja bij vorige vraag dan: Hoe is dit vastgesteld?

- Ik heb de symptomen van het coronavirus (gehad)
- Ik had een positieve test

- Een dokter heeft bevestigd dat ik het had

Kent u iemand die het coronavirus heeft gehad?

- Ja
- Nee

Indien, ja bij vorige vraag dan: Is één van deze personen een nabij familielid/gezinslid of vergelijkbare verwante?

- Ja
- Nee

Bent u op dit moment in zelf-isolatie?

- Ja
- Nee

Heeft u besloten tot zelf-isolatie om te voorkomen dat u geïnfecteerd wordt met het coronavirus door andere mensen?

- Ja
- Nee

Heeft u besloten tot zelf-isolatie omdat u symptomen heeft?

- Ja
- Nee

Bent u getest voor het coronavirus?

- Ja
- Nee

Verzorgt u op dit moment iemand die is gediagnosticeerd met het coronavirus?

- Ja
- Nee

Heeft u, in de afgelopen week, één va deze symptomen gehad?

Klik allen die van toepassing zijn.

- Koorts
- Hoesten
- Keelpijn
- Hoofdpijn
- Verkoudheidssymptomen
- Kortademigheid
- Geen van deze symptomen

Er volgt nu een lijst van zorgen die mensen mogelijk hebben in relatie tot het coronavirus. Geef alstublieft voor elke vraag aan hoe bezorgd u hierover bent op een schaal van 1 tot 5. 1 = helemaal niet bezorgd en 5 = extreem bezorgd

	Hele maal niet	Een beetje	Matig)	Best veel	Extreem
1. Hoe bezorgd bent u over in quarantaine zijn?	○	○	○	○	○
2. Hoe bezorgd bent u over besmet zijn met het coronavirus?	○	○	○	○	○
3. Hoe bezorgd bent u over het infecteren van anderen?	○	○	○	○	○
4. Hoe bezorgd bent u om gestigmatiseerd of afgewezen te worden vanwege het coronavirus?	○	○	○	○	○
5. Hoe bezorgd bent u over uw baanzekerheid vanwege het coronavirus?	○	○	○	○	○
6. Hoe bezorgd bent u over de financiële gevolgen van de coronavirus uitbraak?	○	○	○	○	○
7. Hoe bezorgd bent u over een tekort aan voedsel of dagelijkse producten als gevolg van het coronavirus?	○	○	○	○	○
8. Hoe bezorgd bent u over het vermogen van de overheid om de coronavirus situatie te beheersen?	○	○	○	○	○
9. Hoe bezorgd bent u over het vermogen van het gezondheidssysteem om te zorgen voor coronavirus patiënten?	○	○	○	○	○

Er volgen nu vragen over mogelijk psychologische hulp die u heeft ontvangen.

Heeft u ooit voor uw eigen problemen hulp ontvangen van een psycholoog, therapeut of psychiater **voorafgaand aan** het overlijden van uw dierbare?

- Nee
- Ja

Heeft u ooit hulp ontvangen van een psycholoog, therapeut of psychiater **met betrekking tot** het overlijden van uw dierbare?

- Nee
- Ja

[indien "ja" op vorige vraag] Ontvangt u op dit moment hulp van een psycholoog, therapeut of psychiater **met betrekking tot** het overlijden van uw dierbare?

- Nee
- Ja

Hartelijk dank voor uw antwoorden. Wij zijn nu klaar met het eerste deel van het onderzoek.
Het tweede deel van dit interview bestaat uit vragen over emotionele reacties die u mogelijk heeft ervaren. Zoals eerder aangegeven stellen wij iedere deelnemer dezelfde vragen zodat wij straks de antwoorden met elkaar kunnen vergelijken.
Ik zal u elke keer vragen een getal te verbinden aan uw antwoord. Zoals eerder aangegeven, voelt dit misschien onnatuurlijk, maar wij kunnen uw gegevens alleen verwerken wanneer wij op deze manier uw antwoorden noteren.
Heeft u pen en papier bij de hand? Het kan u helpen om de antwoorden op te schrijven.
Als u wilt kunt u even een pauze nemen om bijvoorbeeld wat te drinken.
Bent u klaar om te starten met het tweede deel?

Wij starten nu met 9 vragen over sombere gevoelens die u mogelijk heeft ervaren in de afgelopen 2 weken.

PHQ-9

Hoe vaak hebt u in de afgelopen 2 weken last gehad van één of meer van de volgende problemen? U kunt kiezen uit de antwoorden 1 helemaal niet, 2 verscheidene dagen, 3 meer dan de helft van de dagen, 4 bijna elke dag.

	Helemaal niet	Verscheidene dagen	Meer dan de helft van de dagen	Bijna elke dag
1. Hoe vaak hebt u in de afgelopen 2 weken last gehad van weinig interesse of plezier in activiteiten?	○	○	○	○
2. Hoe vaak hebt u in de afgelopen 2 weken last gehad van u neerslachtig, depressief of hopeloos voelen?	○	○	○	○
3. Hoe vaak hebt u in de afgelopen 2 weken last gehad van moeilijk inslapen, moeilijk doorslapen of te veel slapen?	○	○	○	○
4. Hoe vaak hebt u in de afgelopen 2 weken last gehad van u moe voelen of gebrek aan energie hebben?	○	○	○	○
5. Hoe vaak hebt u in de afgelopen 2 weken last gehad van weinig eetlust of overmatig eten?	○	○	○	○
6. Hoe vaak hebt u in de afgelopen 2 weken last gehad van een slecht gevoel hebben over uzelf — of het gevoel hebben dat u een mislukkeling bent of het gevoel dat u zichzelf of uw familie teleurgesteld hebt?	○	○	○	○
7. Hoe vaak hebt u in de afgelopen 2 weken last gehad van problemen om u te concentreren, bijvoorbeeld om de krant te lezen of om tv te kijken?	○	○	○	○
8. Hoe vaak hebt u in de afgelopen 2 weken last gehad van zo traag bewegen of zo langzaam spreken dat andere mensen dit opgemerkt kunnen hebben? Of het tegenovergestelde, zo zenuwachtig of rusteloos zijn dat u veel meer bewoog dan gebruikelijk?	○	○	○	○

	Helemaal niet	Verscheidene dagen	Meer dan de helft van de dagen	Bijna elke dag
9. Hoe vaak hebt u in de afgelopen 2 weken last gehad van de gedachte dat u beter dood zou kunnen zijn of de gedachte uzelf op een bepaalde manier pijn te doen?	○	○	○	○

[indien antwoord op vorige vraag “2, 3 of 4” is] Uw antwoord op de laatste vraag was (herhaal het antwoord van de participant). In overeenstemming met ons onderzoeksprotocol zouden we u graag meer vragen stellen om uw veiligheid te waarborgen en, indien nodig, om uw informatie te geven over het zoeken van hulp. Vindt u dat goed?

Hebt u in de afgelopen 4 weken overwogen om uw leven te beëindigen?

- ○ Ja
- ○ Nee

[indien antwoord op vorige vraag “nee” is]

“Omdat u “nee” antwoordde zou ik graag verdergaan met het interview, als u zich nog steeds comfortabel genoeg voelt om deel te nemen. Gaat u daarmee akkoord? We kunnen ook een korte pauze nemen voordat we verder gaan. Misschien wilt u eerst even wat water drinken.”--

[indien antwoord op vorige vraag “ja” is]

Hebt u in de afgelopen 4 weken een plan gemaakt om uw leven te beëindigen?

- ○ Ja
- ○ Nee

[indien antwoord op vorige vraag “nee” is]

“Omdat u “nee” antwoordde zou ik graag verdergaan met het interview, als u zich nog steeds comfortabel genoeg voelt om deel te nemen. Zou u dat willen? We kunnen ook een korte pauze nemen voordat we verder gaan. Misschien wilt u eerst even wat water drinken.”

[Indien antwoord op vorige vraag ‘’ja’’, ‘’wat is uw plan?’’].

Dank u wel voor uw eerlijkheid. Het zal erg moeilijk voor u zijn om dit met mij te delen en om hierover te praten. Door wat u vertelt, heb ik het gevoel dat u misschien professionele hulp nodig hebt.

[indien antwoord op vorige vraag “ja” is]

Ontvangt u momenteel hulp van een professional met betrekking tot deze gedachten of plannen?

- Ja
- Nee

[indien antwoord op vorige vraag “ja” is]

Ik zou graag enkele (verdere) mogelijkheden met u willen bespreken waar u ondersteuning kunt vinden. Vindt u dat goed?

Ten eerste zou u met familie of vrienden kunnen praten bij wie u zich comfortabel genoeg voelt, en van wie u denkt dat zij u zouden kunnen steunen.

Ten tweede zou ik u willen aanraden om contact op te nemen met uw huisarts. Die kan u vervolgens doorverwijzen naar een specialist.

Hebt u een huisarts?

- Ja
- Nee

[indien antwoord op vorige vraag “ja” is]

Hebt u de contactgegevens van uw huisarts bij de hand? Het zou goed zijn om dit nummer te noteren en binnen handbereik te hebben (bijvoorbeeld in uw portemonnee, aan de koelkast of in uw telefoon), voor het geval u het nodig hebt in de nabije toekomst. Ook is er een gratis hulplijn die u 24 uur per dag kunt bellen als u graag met iemand wilt praten. Dit kan ook anoniem. Het telefoonnummer is 0900-0113. Er is ook een chat optie van deze organisatie, die kunt u gebruiken via de website www.113.nl. Ik zou graag willen dat u dit opschrijft, zodat u het bij u hebt in geval van nood.

[indien antwoord op vorige vraag “nee” is]

Er is een gratis hulplijn die u 24 uur per dag kunt bellen als u graag met iemand wilt praten. Dit kan ook anoniem. Het telefoonnummer is 0900-0113. Er is ook een chat optie van deze organisatie, die kunt u gebruiken via de website www.113.nl.

Als u het ermee eens bent, zal ik deze informatie via email naar u versturen zodat u het kunt teruglezen als dat nodig is.

Zou u mij misschien kunnen vertellen wat u zo meteen gaat doen nadat we dit gesprek hebben afgerond? (Als de participant bij iemand anders in de buurt is of specifieke plannen heeft voor de rest van de dag, antwoordt met:)

Oké, nu ik weet dat u niet alleen bent op dit moment/dat u vandaag nog andere plannen hebt zou ik graag het gesprek willen afronden. Dit interview zullen we nu beëindigen, omdat we u

niet willen belasten met verdere vragen. Voor nu zou ik u graag willen bedanken voor uw openhartigheid en voor uw tijd voor dit gesprek vandaag. Ik wil u heel veel sterkte wensen.

(Als de participant alleen is, antwoordt met:)

Naar aanleiding van wat u me net hebt verteld, maak ik me zorgen over uw veiligheid. Voordat we dit gesprek afsluiten wil ik graag samen een plan maken over wat u nu gaat doen. Belooft u me dat u contact opneemt met uw huisarts of dat u 0900-0113 belt wanneer u de telefoon hebt opgehangen? Oké, nu ik weet dat u hierna iemand gaat contacten die hierin gespecialiseerd is, zou ik nu graag het gesprek willen afronden. Dit interview zullen we nu beëindigen, omdat we u niet willen belasten met verdere vragen.

Voor nu zou ik u graag willen bedanken voor uw openhartigheid en voor uw tijd voor dit gesprek vandaag. Ik wens u veel sterkte toe.

TGI-CA

Instructie interviewer: Vervang [_] door de naam van de overledene of relatie tot overledene, bijvoorbeeld "…het overlijden van Jan" OF "…het overlijden van uw zoon".

Ik ga u vragen stellen over verschillende rouwreacties. Geef a.u.b. aan in hoeverre u deze reacties hebt gehad in de afgelopen maand, naar aanleiding van het overlijden van [_____]. U kunt kiezen uit de antwoorden 1 is nooit, 2 is zelden, 3 is soms, 4 is vaak en 5 is altijd.

Instructie interviewer: Indien de respondent meerdere verliezen heeft meegemaakt, lees dan onderstaande voor.

[indien meerdere dierbare zijn verleden] Ik ga u vragen stellen over verschillende rouwreacties. Geef a.u.b. aan in hoeverre u deze reacties hebt gehad in de afgelopen maand, naar aanleiding van het overlijden van uw dierbare. U gaf aan meerdere verliezen te hebben meegemaakt. Ga dan uit van het verlies dat in deze periode het meest in uw gedachten is en/of op dit moment het meest ingrijpend is. Kunt u aangeven om welke dierbare het gaat? U kunt kiezen uit de antwoorden 1 is nooit, 2 is zelden, 3 is soms, 4 is vaak en 5 is altijd.

	Nooit	Zelden	Soms	Vaak	Altijd
1. Hebt u, in de afgelopen maand, plots opkomende gedachten en beelden gehad die te maken hadden met het overlijden van [____]?	○	○	○	○	○
2. Hebt u, in de afgelopen maand, intense gevoelens van emotionele pijn, verdriet, of golven van rouw gehad?	○	○	○	○	○
3. Hebt u, in de afgelopen maand, een zeer sterk verlangen naar [____] gevoeld?	○	○	○	○	○
4. Hebt u, in de afgelopen maand, verwarring over uw rol in het leven of een verminderd gevoel van eigenwaarde gevoeld?	○	○	○	○	○
5. Hebt u, in de afgelopen maand, moeite gehad om het overlijden van [____] te aanvaarden?	○	○	○	○	○
6. Hebt u, in de afgelopen maand, plaatsen, voorwerpen, of gedachten vermeden die u eraan herinneren dat [____] dood is?	○	○	○	○	○
7. Hebt u, in de afgelopen maand, moeite gehad om mensen te vertrouwen?	○	○	○	○	○
8. Hebt u zich, in de afgelopen maand, bitter gestemd of boos gevoeld over het overlijden van [____]?	○	○	○	○	○
9. Hebt u, in de afgelopen maand, moeite gehad om door te gaan met uw leven (bijvoorbeeld door nieuwe vrienden te maken, nieuwe interesses te ontwikkelen)?	○	○	○	○	○
10. Hebt u zich, in de afgelopen maand, verdoofd gevoeld?	○	○	○	○	○
11. Hebt u, in de afgelopen maand, ervaren dat het leven leeg en zonder betekenis is zonder [____]?	○	○	○	○	○
12. Hebt u zich, in de afgelopen maand, geschokt of verbijsterd gevoeld over het overlijden van [____]?	○	○	○	○	○
13. Hebt u, in de afgelopen maand, gemerkt dat uw functioneren (in uw werk, privéleven en/of sociale leven) ernstig is verslechterd ten gevolge van het overlijden van [____]?	○	○	○	○	○

14. Hebt u, in de afgelopen maand, plots opkomende gedachten en beelden gehad die te maken hebben met de omstandigheden waaronder [____] is overleden?	○	○	○	○	○
15. Hebt u, in de afgelopen maand, moeite gehad om stil te staan bij positieve herinneringen aan [____]?	○	○	○	○	○
16. Hebt u, in de afgelopen maand, negatieve gedachten gehad over uzelf die verband houden met het overlijden van [____] (bijvoorbeeld gedachten over zelfverwijt)?	○	○	○	○	○
17. Hebt u, in de afgelopen maand, de wens gehad om zelf te sterven, om bij [____] te kunnen zijn?	○	○	○	○	○
18. Hebt u zich, in de afgelopen maand, alleen gevoeld of voelde u afstand tot andere mensen?	○	○	○	○	○
19. Hebt u , in de afgelopen maand, ervaren dat het onwerkelijk is dat [____] dood is?	○	○	○	○	○
20. Hebt u, in de afgelopen maand, intens verwijt gevoeld naar anderen vanwege het overlijden van [____]?	○	○	○	○	○
21. Hebt u, in de afgelopen maand, het gevoel gehad alsof een deel van uzelf samen met [____] is gestorven?	○	○	○	○	○
22. Hebt u, in de afgelopen maand, moeite gehad om positieve gevoelens te ervaren?	○	○	○	○	○

Hartelijk dank voor uw antwoorden. Wij zijn al over de helft met het interview. Instructie interviewer: Indien deelnemer meerdere dierbaren heeft verloren: Welke dierbare heeft de deelnemer gekozen voor het beantwoorden van de 22 vragen over rouwreacties? Geef hieronder de relatie aan met de dierbare. Bijvoorbeeld "oudste zoon van deelnemer" of "vader van deelnemer".

PCL-5

Nu volgen een aantal vragen over problemen die mensen kunnen ondervinden na een zeer stressvolle gebeurtenis. Geef a.u.b. aan in hoeverre u er in de afgelopen maand last van hebt gehad als gevolg van het overlijden van [___]. 1 is helemaal niet, 2 is een beetje, 3 is matig, 4 is nogal veel, en 5 is extreem veel.

	Helemaal niet	Een beetje	Matig	Nogal veel	Extreem veel
1. In hoeverre heeft u in de afgelopen maand last gehad van regelmatig terugkerende, onaangename en ongewenste herinneringen aan het overlijden van [___]?	○	○	○	○	○
2. In hoeverre heeft u in de afgelopen maand last gehad van regelmatig terugkerende, onaangename dromen over het overlijden van [___]?	○	○	○	○	○
3. In hoeverre heeft u in de afgelopen maand last gehad van opeens het gevoel hebben of u gedragen alsof het overlijden van [___] daadwerkelijk opnieuw plaatsvindt (alsof u terug bent in de tijd dat het overlijden zich afspeelde, en het opnieuw beleeft)?	○	○	○	○	○
4. In hoeverre heeft u in de afgelopen maand last gehad van erg van streek raken wanneer iets u aan het overlijden van [___] herinnert?	○	○	○	○	○
5. In hoeverre heeft u in de afgelopen maand last gehad van een sterke lichamelijke reactie hebben wanneer iets u aan het overlijden van [___] herinnert (bijvoorbeeld: hartkloppingen, moeite met ademhalen, zweten)?	○	○	○	○	○
6. In hoeverre heeft u in de afgelopen maand last gehad van het vermijden van herinneringen, gedachten, of gevoelens die verband houden met het overlijden van [___]?	○	○	○	○	○
7. In hoeverre heeft u in de afgelopen maand last gehad van het vermijden van dingen die herinneringen zouden kunnen oproepen aan het overlijden van [___] (bijvoorbeeld: bepaalde mensen, plekken, gespreksonderwerpen, activiteiten, voorwerpen of situaties)?	○	○	○	○	○

8. In hoeverre heeft u in de afgelopen maand last gehad van moeite hebben met het herinneren van belangrijke delen van het overlijden van [___]?	○	○	○	○	○
9. In hoeverre heeft u in de afgelopen maand last gehad van sterke, negatieve overtuigingen hebben met betrekking tot uzelf, anderen of de wereld (bijvoorbeeld gedachten hebben zoals: ik ben slecht, er is iets vreselijk mis met mij, niemand is te vertrouwen, de wereld is door en door gevaarlijk)?	○	○	○	○	○
10. In hoeverre heeft u in de afgelopen maand last gehad van de schuld geven aan uzelf of aan anderen voor het overlijden van [___] of de gevolgen daarvan?	○	○	○	○	○
11. In hoeverre heeft u in de afgelopen maand last gehad van het ervaren van sterke, negatieve gevoelens zoals angst, afschuw, boosheid, schuld of schaamte?	○	○	○	○	○
12. In hoeverre heeft u in de afgelopen maand last gehad van verminderde interesse hebben in activiteiten die u eerder graag deed?	○	○	○	○	○
13. In hoeverre heeft u in de afgelopen maand last gehad van afstand voelen tussen uzelf en andere mensen, of u vervreemd voelen van andere mensen?	○	○	○	○	○
14. In hoeverre heeft u in de afgelopen maand last gehad van moeite hebben om positieve gevoelens te ervaren (bijvoorbeeld: niet in staat zijn om u gelukkig te voelen of om gevoelens van liefde te hebben voor de mensen die u nabij zijn)?	○	○	○	○	○
15. In hoeverre heeft u in de afgelopen maand last gehad van prikkelbaarheid, woedeaanvallen, of u agressief gedragen?	○	○	○	○	○

16. In hoeverre heeft u in de afgelopen maand last gehad van teveel risico's nemen of dingen doen die u schade zouden kunnen toebrengen?	○	○	○	○	○
17. In hoeverre heeft u in de afgelopen maand last gehad van "super alert", waakzaam of op uw hoede zijn?	○	○	○	○	○
18. In hoeverre heeft u in de afgelopen maand last gehad van u nerveus voelen of snel schrikken?	○	○	○	○	○
19. In hoeverre heeft u in de afgelopen maand last gehad van moeite hebben met concentreren?	○	○	○	○	○
20. In hoeverre heeft u in de afgelopen maand last gehad van moeite hebben met inslapen of doorslapen?	○	○	○	○	○

U heeft nu alle vragen beantwoord. Ik wil u bedanken voor uw deelname. Heeft u op dit moment vragen voor mij?

Nogmaals hartelijk dank!

Appendix B

Assumptions for Independent Sample T-test of 'Age'

This appendix consists of the results from the Shapiro-Wilk test of Normality (Table B1) and the Levene's Test of Homogeneity of Variance (Table B2), for the Independent Sample T-test. Both assumptions are met.

Table B1

Tests of Normality for Independent Sample T-test

	Shapiro-Wilk		
	Statistic	df	Sig.
Age	.99	53	.78(>.05)

Note. Independent variable: condition. Dependent variable: age. p>.05, thus, the assumption of normality is met.

Table B2

Tests of Homogeneity of Variance for Independent Sample T-test

		Levene's Test	
F	df1	df2	Sig.
3.95	1	51	.80(>.05)

Note. Independent variable: condition. Dependent variable: age. p>.05, thus, the assumption of homogeneity of variance is met.

Appendix C

Assumption of Normality for ANCOVA on PCBD

This appendix consists of the results from the Shapiro-Wilk Test of Normality (Table C1), Q-Q Plots of Normality (Figure C1) and the Boxplot for Outliers (Figure C2). The Assumption of Normality, for the ANCOVA on PCBD, was met.

Table C1

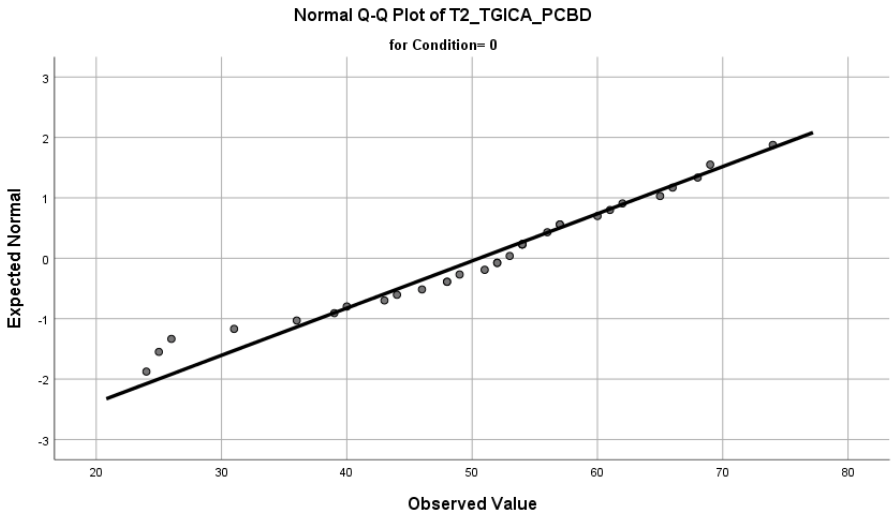
Tests of Normality for PCBD

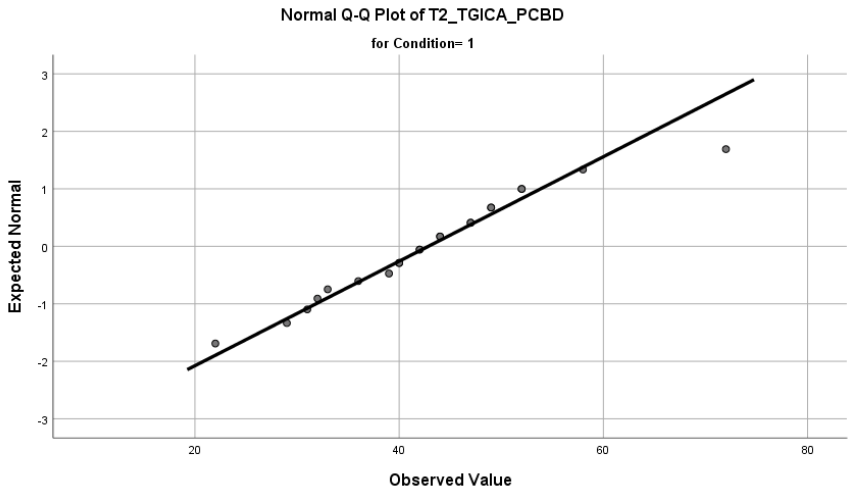
	Shapiro-Wilk		
	Statistic	df	Sig.
Treatment group	.96	32	.33(p>.05)
Waitlist-control group	.97	21	.70(>.05)

Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PCBD. p>.05, thus, the assumption of normality is met.

Figure C1

Q-Q Plots of Normality for PCBD

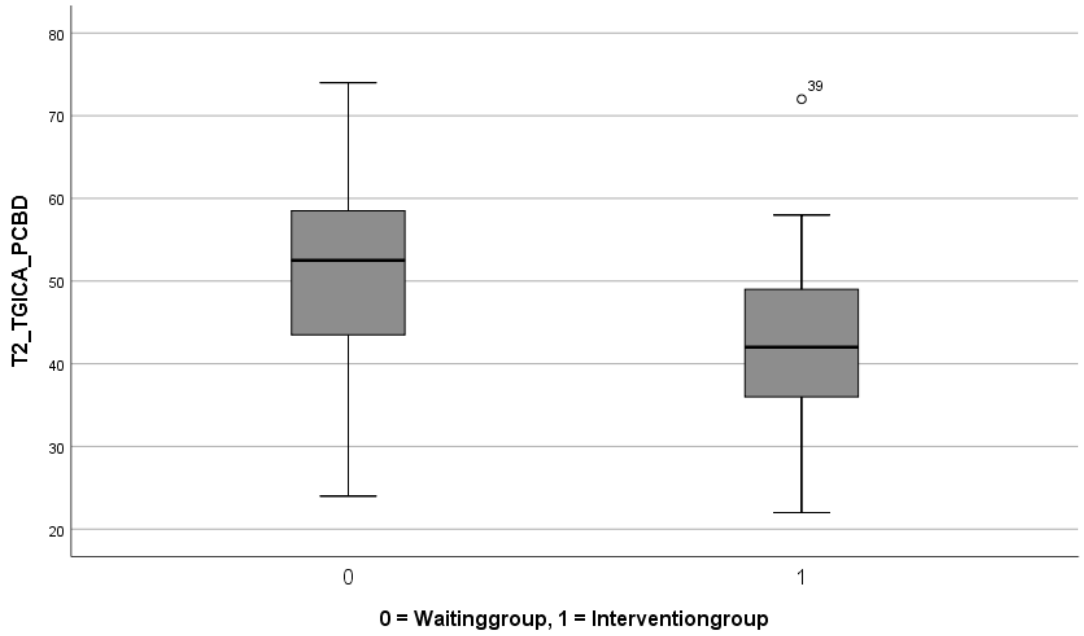




Note. Condition 0 = Waitlist-control group. Condition 1 = Treatment group. Independent variable: condition. Dependent variable: T2 symptom-levels of PCBD.

Figure C2

Boxplot for Outliers



Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PCBD. Participant 39 of the treatment group is depicted as an outlier.

Appendix D

Assumption of homogeneity of variance for ANCOVA on PCBD and PTSD

This appendix consists of the results from Levene's Test of Error Variances for the ANCOVA on PCBD (Table D1) and the ANCOVA on PTSD (Table D2). The Assumptions of Homogeneity of Variance were met.

Table D1

Levene's Test of Equality of Error Variances for PCBD

F	df1	df2	Sig.
1.18	1	51	.28(p>.05)

Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PCBD.

Table D2

Levene's Test of Equality of Error Variances for PTSD

F	df1	df2	Sig.
1.11	1	51	.30(p>.05)

Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PTSD.

Appendix E

Assumption of homogeneity of regression slopes for ANCOVA on PCBD and PTSD

This appendix consists of the results from the Test of Between-Subject Effects for the interaction between Condition and the Covariates for PCBD (Table E1) and the interaction between Condition and the Covariates for PTSD (Table E2). The Assumptions of Homogeneity of Regression Slopes was met for the Condition x Covariates interactions for PCBD, but was not met for the Condition x Covariates interactions for PTSD. The significant interaction between Condition and T1 Symptom levels of PTSD is shown graphically in Figure E1.

Table E1

Test of Between-Subject Effects for the Condition x Covariates Interaction for PCBD

	F	Sig.
Condition x Co-interventions	.83	.37(>.05)
Condition x T1 symptom-levels of PCBD	1.12	.29(>.05)

Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PTSD.

Table E2

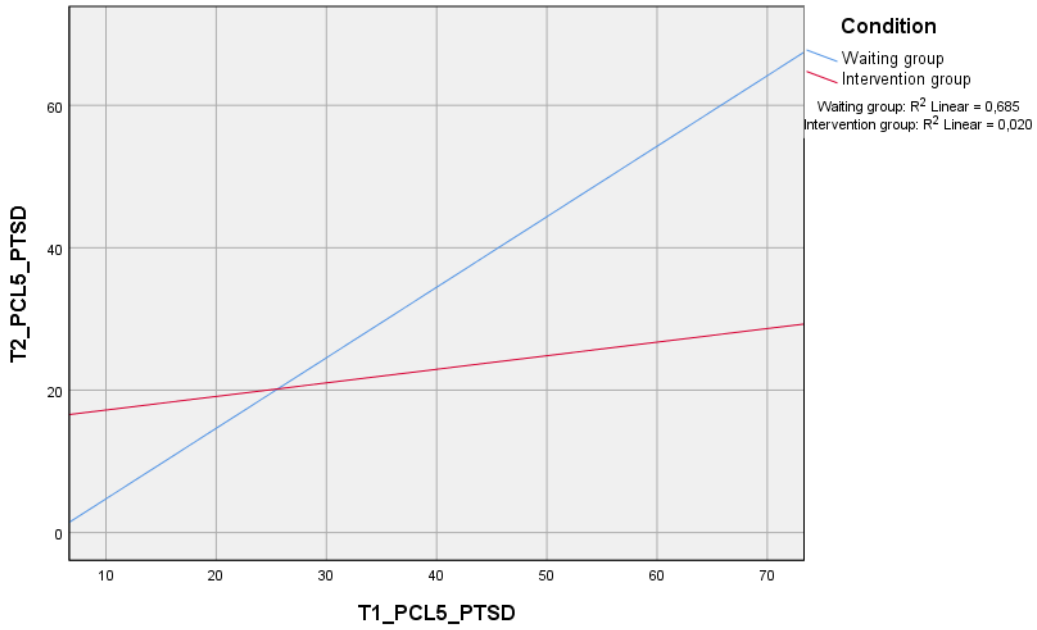
Test of Between-Subject Effects for the Condition x Covariates Interaction for PTSD

	F	Sig.
Condition x Co-interventions	2.53	.12(>.05)
Condition x T1 symptom-levels of PTSD	7.56	.01*

Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PTSD.

Figure E1

*Graphics of the Significant Interaction between Condition * T1 Symptom levels of PTSD*



Note. X-axis: T1 Symptom-levels of PTSD. Y-axis: T2 Symptom-levels of PTSD.

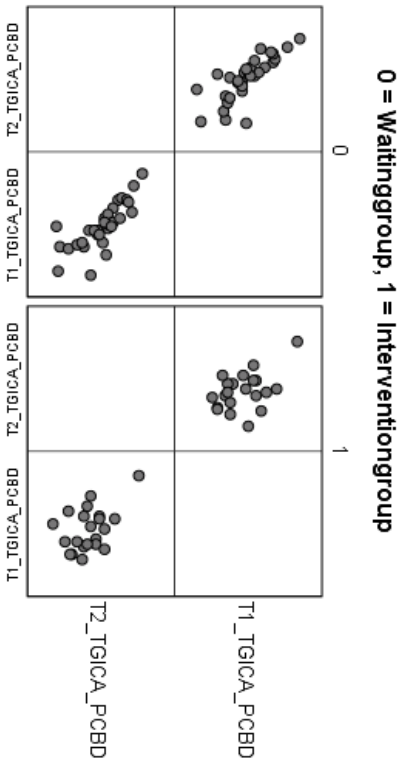
Appendix F

Assumption of linearity for ANCOVA on PCBD

This appendix consists of Boxplots for the linearity between the covariates and T2 Symptom-levels of PCBD. Thus, the linearity between Baseline Symptom-levels of PCBD and T2 Symptom-levels of PCBD (Figure F1), as well as the linearity between the Use of Co-interventions and T2 Symptom-levels of PCBD (Figure F2). The assumption of Linearity was only met for the linearity between the covariate Baseline-symptom levels of PCBD and T2 symptom-levels of PCBD.

Figure F1

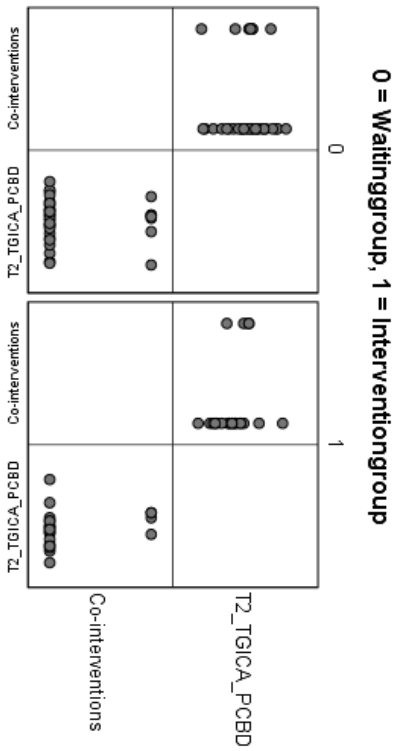
Linearity between Baseline Symptom-Levels of PCBD and T2 Symptom-Levels of PCBD.



Note. The assumption of linearity between Baseline Symptom-levels of PCBD and T2 Symptom-levels of PCBD is met.

Figure F2

Linearity between the Use of Co-Interventions and T2 Symptom-Levels of PCBD.



Note. The assumption of linearity between the Use of Co-interventions and T2 Symptom-levels of PCBD is not met.

Appendix G

Assumption of normality for ANCOVA on PTSD

This appendix consists of the results from the Shapiro-Wilk Test of Normality (Table G1), Q-Q Plots of Normality (Figure G1) and the Boxplot for Outliers (Figure G2). The Assumption of Normality, for the ANCOVA on PTSD, was met.

Table G1

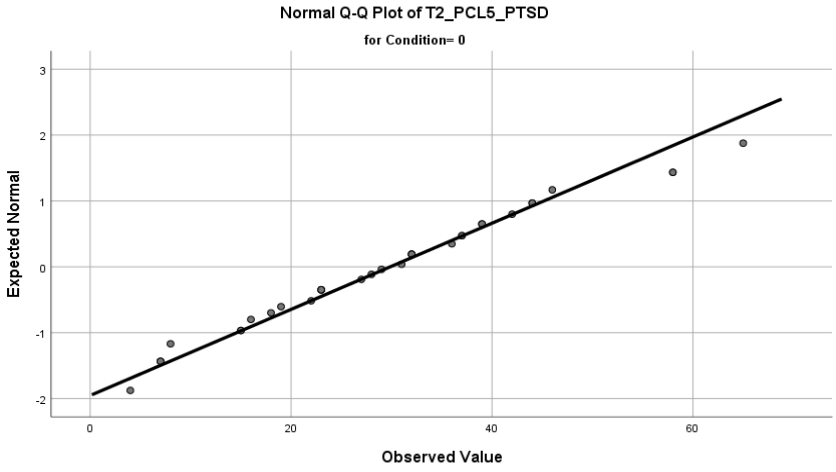
Tests of Normality for PTSD

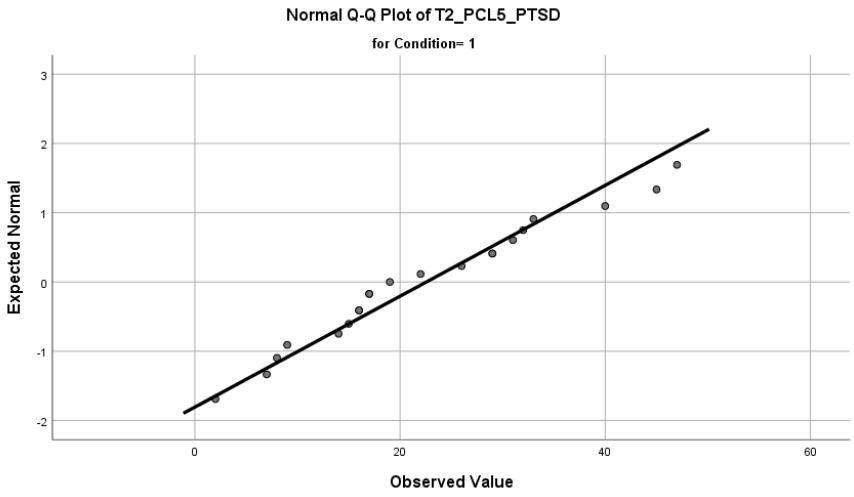
	Shapiro-Wilk		
	Statistic	df	Sig.
Treatment group	.96	21	.52(>.05)
Waitlist-control group	.97	32	.61(>.05)

Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PTSD. p>.05, thus, the assumption of normality is met.

Figure G1

Q-Q Plots of Normality for PTSD

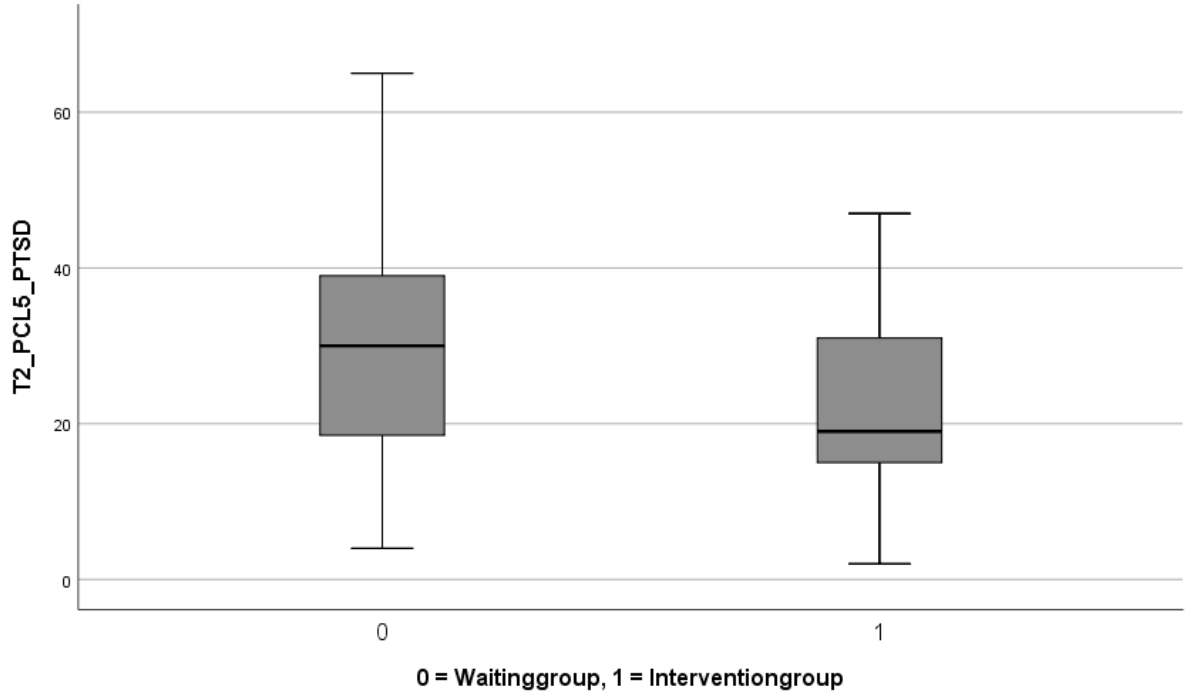




Note. Condition 0 = Waitlist-control group. Condition 1 = Treatment group. Independent variable: condition. Dependent variable: T2 symptom-levels of PTSD.

Figure G2

Boxplot for Outliers



Note. Independent variable: condition. Dependent variable: T2 symptom-levels of PTSD.

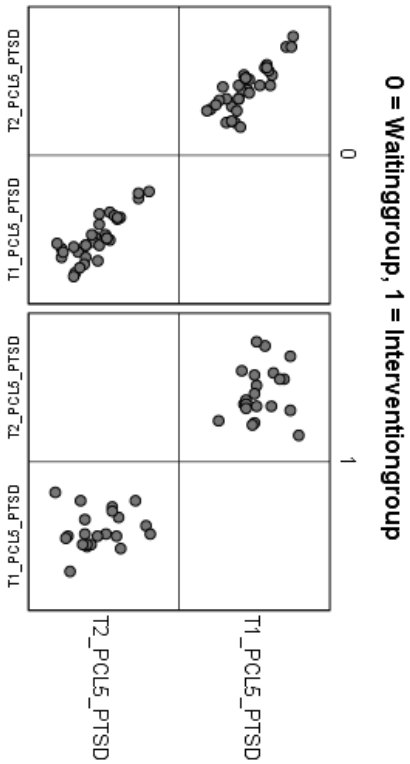
Appendix H

Assumption of linearity for ANCOVA on PTSD

This appendix consists of Boxplots for the linearity between the covariates and T2 Symptom-levels of PTSD. Thus, the linearity between Baseline Symptom-levels of PTSD and T2 Symptom-levels of PTSD (Figure H1), as well as the linearity between the Use of Co-interventions and T2 Symptom-levels of PTSD (Figure H2). The assumption of Linearity was only met for the linearity between the covariate Baseline-symptom levels of PTSD and T2 symptom-levels of PTSD.

Figure H1

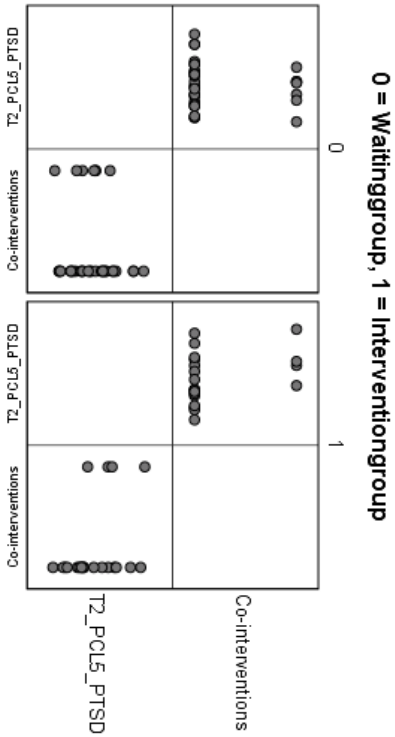
Linearity between Baseline Symptom-Levels of PTSD and T2 Symptom-Levels of PTSD.



Note. The assumption of linearity between Baseline Symptom-levels of PTSD and T2 Symptom-levels of PTSD is met.

Figure H2

Linearity between the Use of Co-interventions and T2 Symptom-levels of PTSD.



Note. The assumption of linearity between the Use of Co-interventions and T2 Symptom-levels of PTSD is not met.