The Effect of a Contact-Education Intervention on Public Stigma towards Prolonged Grief Disorder: An Experimental Study

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PSB3E-BT15: Bachelor Thesis

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January 9, 2022

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Abstract

Prolonged Grief Disorder (PGD), a diagnosis characterised by severe, persistent, and disabling grief, i.e., prolonged grief, has been recognised as a diagnosis in the International Classification of Diseases eleventh edition (ICD-11) and the Diagnostic and Statistical Manual of Mental Disorders (5th edition Text Revision). The inclusion of PGD as a diagnosis has led to concerns about stigmatisation towards people with PGD. Stigmatisation has a negative impact on people suffering from mental illness. Increasing knowledge about mental illness can reduce stigmatisation. Therefore, this study aimed to investigate the effect of a contact-education intervention on public stigma towards PGD. In this study, 464 adults recruited through convenience sampling were randomly assigned to the experimental or control condition. The participants in the experimental condition were asked to watch a video containing information on prolonged grief provided by an expert and a person who experiences prolonged grief. The participants in the control condition did not watch a video. Both groups of participants were presented with a vignette about an individual with PGD. All participants were asked to respond to statements measuring attributions, emotional reactions towards the individual, and preferred social distance towards the individual. A significant effect was found (p = .015) for indicators of public stigma. Further analyses showed a significant effect in the attribution of sensitivity (p = .029) as well as anger (p = .004) towards the individual in the vignette. Results indicate that contact-education interventions can potentially reduce public stigma towards PGD. However, further research on the topic is recommended.

Keywords: Prolonged Grief Disorder, public stigma, contact-education intervention, vignette

The Effect of a Contact-Education Intervention on Public Stigma towards Prolonged Grief Disorder: An Experimental Study

Grief is seen as a natural reaction when one loses a loved one (Lundorff et al., 2017). This natural reaction can, in some individuals, turn into a severe and persistent form of grief, also known as prolonged grief (Comtesse et al., 2020). The International Classification of Diseases eleventh edition (ICD-11, World Health Organisation, 2019) has included Prolonged Grief Disorder (PGD) as a diagnosis. PGD is characterised by a persistent longing and/or preoccupation with the deceased and experiencing additional symptoms such as emotional numbness, difficulty accepting the death, and guilt. These grief symptoms must cause significant impairment in important areas of functioning and the grief reaction must be present for a minimum of 6 months after the loss. The Diagnostic and Statistical Manual of Mental Disorders (5th edition Text Revision; DSM-5-TR; American Psychiatric Association. Unpublished Manuscript) also includes PGD as a diagnosis. The experience of a death, at least 12 months ago, of a person with whom they had a close relationship is the first criterion of PGD. The presence of either persistent yearning/longing for the deceased person or preoccupation with the deceased and/or the circumstances of the death is another criterion that characterises PGD. Other criteria concern the frequent experience of symptoms such as identity disruption, intense loneliness, emotional numbness, and intense emotional pain. Further criteria concern the person showing reactive distress that is out of proportion to cultural norms, is clinically significant and causes significant impairment in important areas of functioning. Lastly, the symptoms cannot be better explained by another mental disorder, another medical condition or be attributable to physiological effects of a substance.

The development of this diagnosis may aid in the development of treatment and the treatment of people experiencing severe grief after loss (Johnson et al., 2009; Doering & Eisma, 2016). However, the diagnosis of PGD in an individual might also have negative consequences, such as stigma (e.g., Eisma et al., 2019; Johnson et al., 2009). Stigma is defined by Link and Phelan (2001) as the co-occurrence of labelling, stereotyping, separation, status loss, and discrimination in a context in which power is exercised. There are different types of interrelated types of stigmas such as internalised stigma, perceived stigma, and public stigma (Martin et al., 2000). Fox et al. (2017) and Hanschmidt et al. (2016) have defined internalised stigma as the extent to which people endorse the negative beliefs and feelings associated with the stigmatised identity for the self, which is associated with a negative self-image, depression, and increased symptom severity. Perceived stigma has been defined as the perception of societal devaluating beliefs and can lead to psychological distress and perceived stereotypes and discrimination (Fox et al., 2017 and Hanschmidt et al., 2016). Corrigan et al. (2005) have defined public stigma as the phenomenon of large social groups endorsing negative stereotypes about and acting against a stigmatised group. These stereotypes can cause a different treatment of stigmatised groups compared to groups that are not stigmatised. The stereotypes may lead to rejection or the stigmatised being denied access to social roles (Angelmeyer et al., 2004 and Fox et al., 2017). Public stigma may also limit prospects for recovery, lead to self-esteem and self-efficacy decrements, and lead to demoralisation or have a negative effect on the self-esteem which may then increase the severity of symptoms (Corrigan et al., 2005 and Johnson et al., 2009). Since stigma can have a large impact on those who are stigmatised, it is important to study it to understand how and why they come to exist, and how they can be prevented and reduced.

Various previous studies have demonstrated that PGD elicits public stigma by asking participants to respond to vignettes about people with or without PGD (e.g., Dennis et al., 2021; Eisma et al., 2019; Gonschor et al., 2020). For example, in a study by Eisma (2018), participants were asked to read and respond to vignettes about a person with PGD and a person without PGD. Subsequently, measures of public stigma were administered. That is, they were asked to what extent they would ascribe negative attributes to the person in the vignettes, share their emotional reactions to this person, and indicate their desire for social distance from this person. They found that a person with a PGD diagnosis would be ascribed more negative characteristics and elicit more negative emotions, and a stronger desire for social distance than a person without a PGD diagnosis. A different study by Johnson et al. (2009), which focused on the stigmatisation of recently bereaved people, found that bereaved people who show severe grief reactions also may perceive more stigmatising social reactions in their close environment. This stigmatisation was attributed to the severity and persistence of the grief symptoms rather than the diagnosis of PGD. This shows that stigmatisation can happen in different kinds of environments.

Given the variety of potential negative consequences of stigmatisation, it appears useful to examine what malleable factors might be targeted to reduce stigma. One of these factors is knowledge about mental illness (Jorm 2012; Link and Phelan, 2001). The term mental health literacy (MHL) was introduced by Jorm et al. (1997) to describe knowledge and beliefs about mental disorders which aid their recognition, management, or prevention. A lack of MHL can lead to mistaken beliefs on mental illnesses and people suffering from mental illness which may then lead to stigma. Possible solutions to improve MHL and therefore reduce stigma are contact and education interventions. A contact intervention involves exposure to individuals with severe mental illness (Pettigrew and Tropp, 2008). An education intervention aims to reduce stigma by

providing factual information which contradicts inaccurate stereotypes (Morgan et al., 2018). In meta-analyses, it was found that both contact and education interventions yield a small to medium effect in reducing stigma (Corrigan et al., 2012; Morgan et al., 2018). An illustration of an educational intervention is a study by Taylor-Rodgers and Batterham (2014). This study included a randomised controlled trial in which participants received either educational materials related to mental health or information that was unrelated to mental health over a period of 3 weeks. Hereafter, participants were asked to fill out different questionnaires to measure mental health literacy, stigma, and help-seeking attitudes and intentions, e.g., the 12-item Literacy of Suicide Scale (Batterham et al., 2013). Taylor-Rodgers and Batterham (2014) found significant differences between the groups, which included increased help-seeking tendencies, increased anxiety literacy, and decreased depression stigma for the intervention group.

In this current experimental study, we will investigate the effect of a contact-education intervention for the general public to reduce public stigma towards Prolonged Grief Disorder. A vignette describing an individual with PGD is presented to all participants of the study. Across both groups, the public stigma will be comprehensively assessed via questionnaires regarding attributions, emotional reactions towards the individual, and preferred social distance from the individual in the vignette. Based on previous intervention research (e.g., Morgan et al., 2018), it is expected that we will find that an education-contact intervention reduces public stigma towards PGD across these outcome measures with small to medium effects.

Methods

Sample and Procedure

The Ethics Committee of the Faculty of Behavioural and Social Sciences provided ethical approval for this Bachelor thesis study (PSY-2122-S-0087). We recruited a convenience sample

of participants, proficient in the English language, mostly from the Dutch and German adult (age ≥ 16 years) population. Participants who did not complete the entire survey were excluded. Recruitment took place online in Facebook groups and with social media web-links, and via advertisements in public places (e.g., the streets in the city centre of Groningen). First-year students at the University of Groningen could participate in exchange for course credits (SONA points). Potential participants were also approached in public places in Groningen. They received a flyer with a QR code to be scanned by their phone that provided them direct access to the study. The full link to the study was also included on the flyer as an alternative to the QR code for participants to type into their web browsers.

The experimental study was programmed in Qualtrics. Participants were informed that the study aimed to gain a better understanding of social reactions towards people experiencing grief. The procedure (e.g., data handling, the voluntariness of participation and anonymity) was explained and all participants provided online informed consent. Participants first filled out a background questionnaire on demographic information (e.g., gender, nationality) and whether they had experienced the death of a close other in the past three years. Participants were then randomly allocated to the intervention condition or the control condition. The intervention comprised an educational and contact-based video (see Materials). The control group did not watch a video. Next, both groups read a vignette (see Materials) describing a bereaved individual with PGD. Following the vignette, participants filled out questions assessing public stigma towards the person in the vignette. At the end of the study, a manipulation check was administered by asking participants in the experimental group questions about the content of the video and all participants about the content of the vignette. In addition, participants were asked if they already knew anything about complicated grief and what they believed the aim of the study

was. As a final step, participants received a debriefing, informing them about the true study aims (see Appendix A), and they were thanked for their participation.

In total, 826 people participated. Participants who did not complete the entire survey (cut-off > 81%) were excluded since these people did not fill out the manipulation check or the required questions needed for our dependent variables. 361 participants (44%) did not complete the full questionnaire. One participant did not give consent to participate, their data was deleted. Therefore, the final number of participants is 464.

A total of 116 (25%) of the participants identified as men, whereas 339 (73%) of the participants identified as women, 4 (1%) as non-binary and 5 (1%) selected other. The age of participants ranged from 16 to 85 (M = 26.05, SD = 12.13). Educational levels were divided into lower (primary school, high school, vocational education) and higher education (college or university) and the majority of participants had an educational level of college or university (57%). The sample consisted of 229 (49%) Dutch participants, 123 (27%) German participants and 112 (24%) participants with other nationalities; amongst these, dual nationalities were also included. Table B1 (See Appendix B) depicts sample characteristics.

Materials

Intervention Video

The intervention video showed an expert and a person who experienced complicated grief symptoms. The video was created by the American Psychiatric Association (2020) and covers different aspects of complicated grief. The video provides information about symptoms of complicated grief and a disorder characterised by complicated grief. It explains how a complicated grief treatment, a 16-sessions manualised proven-effective treatment for complicated grief, works. The expert explains that the woman in the video yearns strongly for

her son and could not engage in meaningful activities anymore, this can also be seen in the person in the vignette. The video (American Psychiatric Association, 2020) is not designed to target stigma. Yet, it could serve as a stigma intervention because it combines two types of stigma interventions by providing accurate information about complicated grief and its treatment (education intervention) and by showing someone who has suffered from complicated grief herself (contact intervention) (Gronholm et al., 2017).

Vignette

This study used a vignette, which is a frequently used method to examine stigma (Link et al., 2004), to assess public stigma towards a person with a complicated grief diagnosis. The vignette that was used is based on previous studies on public stigma towards PGD such as Dennis et al. (2021) and Eisma et al. (2019). The vignette, shown in Table 1, depicts a fictional person named Mark who experiences severe grief and has received the diagnosis of complicated grief, following the loss of his wife. We chose to name the diagnosis complicated grief instead of PGD since the term complicated grief was also used in the intervention video. Both intervention and control groups received this vignette. The vignette was based on the PGD criteria by Maercker et al. (2013) but is also compatible with the criteria for PGD in the ICD-11 (World Health Organization, 2019) and the criteria for PGD in the Diagnostic and Statistical Manual of Mental Disorders (5th edition Text Revision; DSM-5-TR; American Psychiatric Association. Unpublished Manuscript). The vignette contains the time criterion and five symptoms for PGD. The disturbances following the death should last at least 12 months (according to the DSM-5-TR) and cause impairments in daily functioning, yearning for the deceased, trouble accepting the loss, anger, and difficulties engaging in new activities. The time since the loss was set to more than two years, which is longer than the time criterion of 12 months. Spousal bereavement was

used because this type of loss is common and yields a relatively strong grief response (Eisma et al., 2019).

Table 1

Vignette

Fifty-year-old Mark has lost his wife to a stroke more than two years ago. He finds this extremely difficult and does not function well at work nor at home. Since the loss he yearns strongly for his deceased wife. Mark has difficulties accepting the loss and experiences strong feelings of anger. He withdraws socially and engages in few activities. On the basis of this behaviour a mental health professional diagnoses him with a complicated grief.

Instruments

A self-constructed background questionnaire was administered before the vignettes were presented. All participants were presented with the public stigma questionnaires after the vignette.

Background Questionnaire

To assess background information, a self-constructed questionnaire was implemented, asking participants about their gender (female, male, non-binary, other, prefer not to say), age (in years), nationality, education level (primary school, high school, vocational education, college/university) and whether they study psychology. Participants also answered questions about their religion (yes, actively practising/yes, but not practising/no), employment status (student, full-time, part-time, unemployed, incapacitated, retired, housewife/houseman – multiple

answers possible), and whether they experienced bereavement within the last three years (yes/no).

Stigma Questionnaires

Following the vignettes, the participants were asked to complete the following public stigma measures. In total, three components of public stigma were assessed (Link & Phelan, 2001): attributions, emotional reactions towards the individual, and preferred social distance from the individual.

Attributions

Participants were asked to indicate on a Likert scale ranging from (1) "*completely agree*" to (4) "*completely disagree*", to what extent they agreed or disagreed with statements about the fictional person Mark. They were asked whether they agreed that Mark is competent, warm, emotionally stable, dependent, and sensitive. These items were previously used in studies by Eisma (2018) and Eisma et al. (2019) and are based on research by Angermeyer and Matschinger (2003) on public stigma in depression and research on personality characteristics especially associated with grief severity (Denckla et al., 2011; Wijngaards-de Meij et al., 2007). The items that were used here measure different types of attributions, both positive and negative attributions. Therefore, the reliability could not be computed.

Emotional Reactions

The emotional reactions scale comprises a 13-item self-report measure containing 3 subscales assessing stigma-related emotional reactions (von dem Knesebeck et al., 2017). The three subscales consist of the following stigma-related emotional reactions: anger, prosocial emotion, and fear (Angermeyer & Matschinger, 2003). As previous studies found low reliabilities for the fear and prosocial emotion subscales (Eisma, 2018; von dem Knesebeck et

al., 2017), a more reliable version of the scale adapted by Eisma et al. (2019) was implemented. The anger subscale includes 4 items (e.g., "*I feel annoyed by this person*"), the fear subscale 5 items (e.g., "*I feel uncomfortable*") and the prosocial emotion subscale 4 items (e.g., "*I am concerned about this person*") (Dennis et al., 2021). Participants were asked to rate the items on a 4-point Likert scale, ranging from (1) "*completely agree*" to (4) "*completely disagree*". The internal consistencies of the three subscales ranged from low to good (anger $\alpha = 0.813$; prosocial $\alpha = 0.538$; fear $\alpha = 0.865$).

Preferred social distance

Preferred social distance from the described person was measured with the Social Distance Scale (SDS; Link et al. 1987). The SDS consists of statements about whether they would like to interact with the described person in various roles (e.g., a co-worker, neighbour, colleague), indicating the preferred social distance towards this person. Here, higher scores indicate that participants prefer less social distance towards the person. Participants were asked to indicate whether they agree or disagree with statements about Mark on a 4-point Likert scale, ranging from (1) "*completely disagree*" to (4) "*completely agree*". The reliability was good, $\alpha = 0.825$.

Manipulation check

To assess whether participants in the experimental condition watched the video attentively, the following two questions were posed to these participants at the end of the study: "What did Stephanie suffer from?" and "Which family member did Stephanie lose?". Subsequently, to assess whether the vignette was understood correctly, each participant (experimental and control group) was asked the following two questions at the end of the study: "When did Mark lose his wife?" and "What was Mark's diagnosis?".

Questions about complicated grief knowledge and study aim

In addition to the manipulation check, participants were also asked about their level of knowledge regarding the term complicated grief, as well as what they believed the aim of the study was. This was done by asking participants to answer the question: “Before the study, did you already know about complicated grief?”. Participants could then indicate their level of knowledge with “Yes I knew a lot about it”, “I knew a little bit about it”, “Yes I have heard the term before” or “No, I have not heard about it before”. Then, they were asked to fill in their answer to the question: “What do you think the aim of this study was?”. Finally, the participants got a debriefing explaining the true study aims.

Analyses

A randomisation check was carried out to check whether the groups were equivalent on relevant characteristics. The two groups were compared on the background variables (gender, age, nationality, education, employment status, religiosity, and experience of bereavement). A t-test was performed for the continuous variable ‘age’ and chi-square tests were performed for the remaining categorical variables. Subsequently, assumptions of MANOVA (i.e., normality, linearity, homogeneity of variances) were checked. Next, the effect of the intervention (vs no intervention) was tested with a between-group MANOVA. There were nine dependent variables: the five attributions, three forms of emotional reactions and the preferred social distance. Non-parametric tests (Kruskal-Wallis tests) were run as well due to a violation of assumptions. Furthermore, as a sensitivity check, the main analyses were rerun with and without the participants who got at least one of the manipulation check questions wrong, to investigate whether this influenced the results. A two-sided significance level of 0.05 was used in the

analyses. Partial η^2's were calculated to measure effect size. An effect size of 0.01 was viewed as small, 0.06 as medium and 0.14 as large (Cohen, 1998).

Results

Assumptions Check

The following assumptions were checked using the software program SPSS (Version 26.0): (1) linearity, (2) normality, (3) homogeneity of variances and (4) homogeneity of variance-covariance matrices, (5) absence multicollinearity and (6) absence of outliers.

The scatterplot matrix shows a violation of the linearity assumption (1): the dependent variables are not linearly related to each other, no other form of distribution became visible. Normality assumptions (2) were violated for all the variables: the Shapiro-Wilk's test shows significant results for all of the dependent variables ($p < .001$), therefore the null hypothesis that the group is normally distributed is rejected. Levene's test showed no significant differences in variances for eight of the nine dependent variables, only the anger variable does not meet the assumption of equal variances (3). The assumption of homogeneity of variances-covariances matrices (4) was not violated (Box's $M = 54.387$, $p = .187$). Multicollinearity (5) was assessed by comparing bivariate correlations, no correlations above .8 were found, which means that the assumption of absence of multicollinearity is met. Lastly, the absence of multivariate outliers (6) was assessed by obtaining Mahalanobis distances. Three multivariate and 15 univariate outliers were detected.

Non-parametric tests (Kruskal-Wallis tests) were run after the planned MANOVA, because of violation of assumptions. Only the parametric tests results are reported in the main analysis section since both tests indicate similar results*:* $H(1)= 5.82$, $p = .016$ for the attribution "I would describe Mark as: sensitive" and $H(1)= 5.64$, $p = .018$ for the emotional anger subscale.

Randomization Check

To check whether the two groups (intervention vs. no intervention) are equivalent, they were compared on all background characteristics. There were no significant differences between the two groups on age ($t(462) = -0.97$, $p = .331$), nationality (χ^2 (2) = 2.68, $p = .262$), education level (χ^2 (3) = 6.32, $p = .097$), currently studying (χ^2 (1) = 0.58, $p = .447$), proportion of psychology students (χ^2 (4) = 6.51, $p = .164$), and having experienced bereavement in the past three years, (χ^2 (1) = 2.13, $p = .145$), and English speaking abilities (χ^2 (2) = 3.07, $p = .216$). Fisher's exact test was used to determine if there was a significant association between the gender of the two groups and the employment status. No significant effect was found on gender ($p = .662$) and on employment status ($p = .415$). However, the two groups differed significantly on religion, (χ^2 (2) = 10.11, $p = .006$) (see Appendix B2). There were significantly more non-actively religious people in the intervention group.

Manipulation Check

Participants who were in the intervention group ($n = 198$) had to answer two manipulation check questions about the video. The question 'What did Stephanie suffer from?' was answered correctly with the answer "Complicated Grief" by 196 participants (99%). A percentage of 95% (i.e., 188 participants) answered the question 'Which family member did Stephanie lose?' correctly by saying "Her son". Additionally, all participants had to answer two questions about the vignette. The question 'When did Mark lose his wife?' was answered correctly by 78% of all the participants, saying "More than two years ago". Lastly, 81% of the participants correctly answered the question 'What was Mark's diagnosis?' with "Complicated Grief", indicating that the majority of the participants read the vignette well and paid attention to

the video. Main analyses were rerun without the participants who had both manipulation check questions for the video and/or both questions for the vignette wrong (see sensitivity analysis).

Main Analysis

The MANOVA revealed a significant main effect of the educational and contact-based intervention (yes vs. no) on indicators of public stigma (Pillai's Trace = .044, $F(9, 454) = 2.31$, $p = .015$, $\eta_p^2 = .044$). Univariate tests demonstrated that there was a significant difference between the intervention and no-intervention group on the emotional anger-subscale ($F(1, 462) = 8.478$, $p = .004$, $\eta_p^2 = .018$), and on the attribution "I would describe Mark as: sensitive", ($F(1, 462) = 4.809$, $p = .029$, $\eta_p^2 = .010$). Furthermore, comparing the means of the two conditions showed that participants in the intervention group rated Mark as less sensitive and indicated fewer anger-related emotional reactions towards him (see Appendix B).

Sensitivity Analysis

The manipulation of the video condition showed two participants that answered both manipulation questions wrong. These two participants were deleted. Furthermore, 28 participants answered both questions for the vignette wrong and were also deleted. With a sample size of N = 434, a new MANOVA was run. A significant main effect was found (Pillai's Trace = .050, $F(9, 424) = 2.49$, $p = .009$, $\eta_p^2 = .050$). Univariate analyses indicated significant effects for the emotional reaction anger ($F(1, 432) = 7.66$, $p = .006$, $\eta_p^2 = .017$), on the attribution "I would describe Mark as emotionally stable" ($F(1, 432) = 4.13$, $p = .043$, $\eta_p^2 = .009$) and on the attribution "I would describe Mark as: sensitive" ($F(1, 432) = 4.70$, $p = .031$, $\eta_p^2 = .011$). Means indicated that participants in the intervention group reported fewer anger-related emotional reactions towards Mark, rated him as less sensitive and less emotionally stable, than participants in the control group.

Attrition Analysis

Out of the dataset of 826 people 121 people were deleted because they did not fill out any background characteristics, the remaining 705 participants were divided into two groups: one group that completed the survey (for at least 81%) and one group who did not complete the survey.

To check whether there were any differences between the group of participants who did not complete the study and those who did complete the study, both groups (the attrition group $n = 241$ vs. the group who completed the survey $n = 464$) were compared on background characteristics.

Significant differences between the two groups were found on the following background characteristics: percentage of students (χ^2 (1) = 6.35, $p = .012$); studying psychology (χ^2 (4) = 68.25, $p < .001$); educational level (χ^2 (3) = 18.77, $p < .001$); experience of bereavement in the past three years (χ^2 (1) = 7.57, $p = .006$) and nationality (χ^2 (44) = 97.17, $p < .001$). Fisher's exact test (with the Monte Carlo estimate for the p-value) is used to compare the two groups on employment status: significant differences were found between the group who completed the survey and those who did not complete the survey ($p = .031$).

Bar graphs and post hoc tests indicated that there are significantly more students, more first-year psychology students, more participants with an educational level of 'high school' and 'college/university', and more participants who experienced bereavement in the past three years in the group who completed the survey. Additionally, regarding employment status, there were significantly more students and more people working full time in the group who completed the survey.

Analysis of Participants' Comments

Amongst all responding participants, the following comment themes seemed to be most common. Ten participants did not understand the word "willingness" concerning the question about how they felt about Mark on the social distance scale questions. For example, participants found it difficult to respond to the question "How would you feel as a worker on the same job as someone like Mark?" with the answer options ranging from "definitely willing" to "definitely not willing" on the Likert scale. One participant mentioned that the timed vignette took longer than he/she expected. Five participants indicated feeling forced to answer questions towards Mark and found that the forced-choice format sometimes did not correctly represent their opinion. They had wished for a neutral option. Four participants also felt like they wanted to elaborate more on their responses towards Mark on the stigma scales (e.g., they would have liked to have given a reason why they did not want to rent a room to him, because of his age, etc.), but they were unable to do so. Four participants would have liked to have received more information about Mark in the vignette (i.e., how Mark is usually as a person, habits, tidiness, etc.) to relate to him more and give a more representative response to the questions.

Discussion

The present study was based on previous studies demonstrating that PGD elicits public stigma (e.g., Eisma et al., 2019; Johnson et al., 2009) and that contact-education interventions can reduce stigma for different types of disorders (Corrigan et al., 2012; Morgan et al., 2018). This current study combined these theories and investigated the effect of a contact-education intervention on the public stigma elicited by PGD. The main analysis revealed a significant main effect of the contact-education intervention on indicators of public stigma. This main effect is a small-medium effect and is in line with previous results from studies on (public) stigma interventions (e.g., Griffiths et al., 2004; Morgan et al., 2018; Taylor-Rodgers and Batterham,

2014; Waqas et al., 2020). The sample size used in this study was smaller than expected and caused a drop in the power, making it less likely to detect an effect. The lower intensity of the intervention, i.e., participants only had to watch a short video, may have also played a role here (Morgan et al., 2018). An intervention with higher intensity, e.g., an intervention with direct contact with an expert or an individual with PGD, may lead to a stronger effect.

Further univariate analyses showed a significant effect on the emotional anger-subscale and on the attribution "I would describe Mark as sensitive". These significant effects were, respectively, large and medium-large. Participants in the experimental condition assessed the individual with PGD as less sensitive and indicated less anger-related emotional reactions toward him than participants in the control condition. This implies that the contact-education intervention caused people to view the individual as less sensitive and they felt less angry towards the individual compared to people who did not watch the contact-education intervention. This shows that a contact-education intervention may have some impact on aspects of public stigma. However, the analyses did not show significant effects for other indicators of public stigma.

There may be several explanations for the fact that only the factors mentioned above are influenced. Firstly, a diagnosis with a mental illness can elicit a lot of emotions from people. These emotions can include anger. The feelings of anger may be directed towards the person who received the diagnosis of a mental illness. The intervention that was used in this video provided information from an expert that explained that the individual with PGD was not responsible for her situation and showed an individual that is able to live a good life despite having PGD. This may explain why the experimental group reported feeling less angry towards Mark compared to the control group. Secondly, interventions that include exposure to an

individual with mental illness are thought to increase empathy towards that individual (Morgan et al., 2018; Pettigrew and Tropp, 2008). An increase in empathy towards the individual in the video may have led to an increase in empathy towards the individual in the vignette as well, resulting in participants feeling less angry towards him and viewing him as less sensitive.

When participants who failed the manipulation check were removed from the sample, another significant effect was found for the attribution "I would describe Mark as emotionally stable". This was a medium-large effect. Participants in the experimental condition assessed the individual in the vignette as less emotionally stable than participants in the control condition. This was an unexpected finding but there may be an underlying explanation. It may be that participants who watched the video saw the emotions of the individual with PGD and ascribed this to the person in the vignette. The significant main effect and the effects for anger and sensitivity in this sensitivity analysis were highly similar compared to the main and univariate analyses.

This study has both theoretical and clinical implications. The strong effects in previous research on public stigma towards PGD (e.g., Eisma et al., 2019) show that there is a need for interventions to prevent and reduce public stigma since it has a major impact on those being stigmatised. Educating people on mental illness will help increase their mental health literacy and this may prevent and reduce public stigma (Jorm, 2012; Morgan et al., 2018). The findings of significant results in the analyses showed that the contact-education intervention for public stigma towards PGD works to some extent. As the results indicate that an intervention could reduce stigma, it raises the question of how this could be implemented best in society. Another implication is the fact that it is currently unclear for how long the reduction of stigma after an intervention will last.

This study had some clear strengths. The study uses an experimental design and uses a contact-education intervention in the form of a video, which is unique for studies on public stigma and PGD, and a reference group who did not receive an intervention. To the knowledge of the authors, the present study is the first of its kind.

However, some limitations should be acknowledged. First, the sample was a convenience sample and contained more females and highly educated people compared to the general population of The Netherlands and Germany. Since the sample is not representative, it is unknown whether we can generalise the findings of this study to the general population of The Netherlands and Germany.

Second, the study had a relatively high dropout rate as well as differences between people who completed the study and those who did not. The group of participants who completed the survey consisted of significantly more students, more people working full time, more first-year psychology students, more participants with a higher educational level, and more participants who experienced bereavement in the past three years than the group who did not complete the survey. Students, people with a higher educational level, and people who recently experienced bereavement may have more knowledge on mental illnesses such as PGD and may therefore show fewer stigmatising responses. There was a problem with playing the video in Qualtrics for some participants, which may have caused participants to stop participating. Also, the instruction that the participants were advised to be in a quiet room might have resulted in participants closing the survey. The high dropout rate has caused unequal sample sizes for the conditions, which caused a drop in the power, making it less likely to detect an effect. Since the effects that were found in the present study are relatively small, it is also recommended to develop interventions that may have a higher intensity to obtain a larger effect. It is also recommended

that different types of interventions be studied and how interventions can be used to reduce stigma outside of research, e.g., in therapy or campaigns for the general public.

Third, the present study has measured the public stigma towards PGD only once for every participant immediately after the intervention. It is therefore currently unknown what the long-term effects of the contact-education intervention are. The long-term effects of interventions on public stigma should be considered, and a longitudinal experimental study can be recommended for future research. Future research should investigate whether interventions can also be used to reduce other types of stigma elicited by PGD, such as perceived stigma or self-stigma.

Furthermore, the sensitivity analyses revealed that there was another significant effect after removing the data from participants who did not answer both questions about the video and/or the vignette correctly. This suggests that they did not pay attention to the video and/or the vignette, meaning that their response was inaccurate.

Finally, the analysis of participants' comments revealed that there were participants who had issues with how the answers were presented. Some participants missed neutral options regarding how they felt towards Mark. This may have caused them to select an answer option that may not have truly represented their opinion. Other participants had issues with the way questions were formulated. They struggled to understand the word "willingness" in relation to statements about the individual in the vignette, which created confusion as to which answer option they should select. Further research should consider how questions and answer options are phrased to prevent confusion in participants.

Previous research has consistently found that PGD elicits public stigma. This can have damaging consequences on individuals that are stigmatised. This current study is the first to use

an education-contact intervention to reduce public stigma towards PGD. Results indicate that the intervention partially reduced public stigma. Considering the negative consequences of stigmatisation, future research needs to consider further methods to reduce public stigma towards people with PGD.

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Appendix A

Debriefing

Dear participant,

Thank you very much for participating in our study "Perceptions of Grief". We could not fully explain the aims of the study beforehand because it may have influenced your responses to our questions. Therefore, we now explain in more detail what the aims of the study were.

What was the study about?
The study was about social reactions to severe, persistent and disabling grief, termed complicated grief. In this study, we investigated whether providing education about complicated grief and contact with a person who suffered from complicated grief via a video reduces stigma towards people who experience complicated grief.

How was this tested?
To test whether the education and contact-based intervention reduces stigma towards individuals with complicated grief, we conducted an experiment. Participants in the experimental condition were asked to watch a video, which contained an expert description of the diagnosis and treatment of complicated grief. Additionally, a person with complicated grief told about her experiences in the video. Participants in the control condition did not receive any intervention. Afterwards, both groups were asked to fill in a survey in response to a description of a person with complicated grief. The survey contained questions about negative attributions, negative emotional reactions, and desire for social distance, which together constitute stigma.

We expect to find differences in stigma between the group who participated in the intervention (watching the video) and the group who did not watch the video. Specifically, we expect that participants who watch the video (vs. not) will attribute fewer negative traits to a person with complicated grief, will experience fewer negative emotions towards this person, and a lower desire for social distance from this person.

Why is this important?
Stigma towards mental health conditions has adverse consequences on individuals' well-being. Prior studies have found that interventions, such as education about mental health and contact with people who have a mental health condition, can reduce stigma towards individuals with mental illness. However, it has not yet been investigated if such interventions are effective in reducing stigma for complicated grief. Examining possible stigma interventions may help to reduce stigma towards individuals with complicated grief and thereby might help to improve their well-being.

What if you want to know more?

You may always ask questions about the research. You can do so by contacting one of the students who have asked you to participate in this study or by contacting the researcher who is responsible for the execution of this study: Maarten Eisma, m.c.eisma@rug.nl, +31 (0) 50-3632306, University of Groningen, Faculty of Behavioral and Social Sciences, Department of Clinical Psychology and Experimental Psychopathology, Grote Kruisstraat 2/1, 9712 TS, Groningen. Do you have questions/concerns about your rights as a research participant or about the conduct of the research? You may also contact the Ethics Committee of the Faculty of Behavioural and Social Sciences of the University of Groningen: ec-bss@rug.nl.

Appendix B: Tables

Table B1

Sociodemographic Characteristics of the Participants

Sample Characteristics		Intervention Video (*n* = 198)	No Intervention Video (*n* = 266)
Gender (N (%))	Male	53 (26.8)	63 (23.7)
	Female	142 (71.7)	197 (74.1)
	Non-binary	2 (1.0)	2 (0.8)
	Other	1 (0.5)	4 (1.5)
	Prefer not to say	0	0
Age in years (M (SD))		26.68 (13.2)	25.58 (11.3)
Education (N (%))	Lower education	95 (48.0)	105 (39.5)
	Higher education	103 (52.0)	161 (60.5)
Psychology student (N (%))	No	88 (44.4)	141 (53.0)
	Yes, first year bachelor	65 (32.8)	85 (32.0)
	Yes, second or third year	29 (14.7)	30 (11.3)
	Yes, master	13 (6.6)	8 (3.0)
	Yes, postmaster	3 (1.5)	2 (0.8)

Table B1 (Continued)

Work status (N (%))	Student	142 (71.6)	185 (69.5)
	Full-time	30 (15.1)	47 (17.7)
	Part-time	64 (32.3)	106 (39.7)
	Unemployed	20 (10.0)	19 (7.0)
	Incapacitated	0	0
	Retired	3 (1.5)	4 (1.5)
	Housewife/houseman	3 (1.5)	6 (2.3)
Nationality (N (%))	German	57 (28.8)	66 (24.8)
	Dutch	89 (44.9)	140 (52.6)
	Other *	52 (26.3)	60 (22.6)
Religious (N (%))	Yes, I practice	10 (5.0)	24 (9.0)
	Yes, but not actively	57 (28.8)	46 (17.3)
	No	131 (66.2)	196 (73.7)
English level (N (%))	Beginner	8 (4.0)	16 (6.0)
	Advanced	51 (25.8)	83 (31.2)
	Proficient	139 (70.2)	166 (62.4)
Bereavement past three years	Yes	84 (42.2)	113 (49.2)
(N (%))	No	114 (57.6)	135 (51.0)

Table B1 (Continued)

Note. * For nationality the category "other" includes all other nationalities that are neither German or Dutch or that of participants with a double nationality.

Table B2

Means and Standard Deviations of Attributes, Emotions, and Preferred Social Distance per Intervention Group

Attributes, emotional reactions, and preferred social distance	No video (n = 266)		Intervention video (n = 198)	
	M	*SD*	M	*SD*
Warm	2.95	0.83	2.89	0.79
Competent	2.61	0.74	2.56	0.69
Emotionally stable	1.64	0.66	1.53	0.63
Dependent	2.77	0.73	2.75	0.72
Sensitive **	3.38	0.70	3.24	0.71
Anger **	1.48	0.60	1.33	0.47
Fear	1.85	0.69	1.81	0.71
Pro-social	3.09	0.52	3.07	0.54
Preferred social distance	3.34	0.53	3.26	0.52

Note. ** Significant differences were found between no video and intervention video on the attribute sensitive $p = .029$ and the emotional reaction Anger $p = .004$. Lower scores on social distance scale indicate a higher preferred social distance.