

**An Experimental Study: Reducing Stigma Toward Prolonged Grief Disorder by an
Education-Contact Intervention**

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Abstract

In 2018, a diagnosis characterized by severe, persistent and disabling grief, named Prolonged Grief Disorder (PGD), was included in the International Classification of Diseases 11 (ICD - 11). This has ever since then led to discussions about the medicalizations of grief. Recent studies have shown that people with PGD may experience public stigma. Being stigmatized has severe consequences for people with mental illnesses. Interventions have been successful in reducing public stigma for other disorders. However, no research to date has investigated whether such interventions can be applied to reduce stigma toward people with PGD. Against this background, 464 people from a convenience sample were randomly assigned to one of two groups. The intervention group was asked to watch a short educational video which provides indirect contact to a person with a grief disorder. The reference group received no intervention. Subsequently, both groups were asked to read a vignette describing a person with a grief disorder. It was assessed whether participants in the intervention group had fewer stigmatizing responses than the reference group. This was assessed through participants' attributions assigned to the person in the vignette, emotional reactions, and preferred social distance toward this person. The intervention showed a successful, but limited, reduction of stigma. Notably, participants reported less anger-related emotional reactions and described the individual as less sensitive than the reference group. Public stigma toward PGD can be reduced in the short-term with interventions such as the present one. Nevertheless, these warrant further research on the form of intervention.

Keywords: complicated grief, PGD, public stigma, mental health literacy intervention

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Approximately 160.000 people die each day worldwide (World Population Review, n.d.), leaving many bereaved relatives and friends behind. Generally speaking, the process of grief is viewed as something inevitable and normal. However, in some individuals symptoms of grief aggravate to an extent that can be considered abnormal.

A severe, persistent, and long course of grief has recently been acknowledged in diagnostic manuals, commonly referred to as complicated grief. In 2018 the Prolonged Grief Disorder (PGD) was included in the International Classification of Diseases 11 (ICD-11; World Health Organization, 2019). Persistent and pervasive longing for and/or pervasive cognitive preoccupation with the deceased, combined with grief reactions presumed indicative of intense emotional pain for at least six months after bereavement, constitute diagnostic criteria for PGD (World Health Organization, 2019). Additionally, the Diagnostic and Statistical Manual of Mental Disorders (5th edition Text Revision; DSM-5-TR; American Psychiatric Association. Unpublished Manuscript) will include PGD, however with differing criteria (Lenferink et al., 2022). In the following sections, the term complicated grief will be used as an umbrella term to describe severe, persistent, and disabling grief reactions unless we specifically refer to PGD per ICD-11.

The inclusion of grief disorders in diagnostic manuals has since led to discussions about the medicalization of grief (Bandini, 2015). Opinions about the inclusion are twofold: while some argue that this medicalization helps finding those persons who need treatment, others argue that having diagnostic symptoms for an atypical grieving process predetermines how one has to grieve (Bandini, 2015).

Overall, diagnostic labels have a negative impact on public attitudes and behaviors toward individuals with mental illnesses (Angermeyer & Matschinger, 2003). This can translate into stigmatization of diagnosed individuals. Stigma can be understood as “the co-occurrence of labeling, stereotyping, separation, status loss, and discrimination” (Link & Phelan, 2001). Furthermore, stigma can be divided into three components: stereotypes, prejudice, and discrimination (Corrigan, 2000; Corrigan, 2002). These are commonly assessed by measuring negative beliefs and emotions as well as preferred social distance toward stigmatized individuals (Link & Phelan, 2001)

An important theoretical differentiation exists between public stigma and self-stigma. Public stigma is “the phenomenon of large social groups endorsing negative stereotypes about and acting against a stigmatized group” (Corrigan et al., 2005). This, in turn, can lead to self-stigma, defined as “the process of an individual accepting society’s negative evaluation and incorporating it into his or her own personal value system and sense of self” (Livingston & Boyd, 2010). Public stigma has severe consequences for individuals with mental illnesses such as social isolation or unemployment (Rüsch et al., 2014). Self-stigma is associated with anticipated discrimination and lower self-esteem (Corrigan et al., 2015; Oexle et al., 2016;). Especially deleterious for some individuals is the disruption of their treatments because of stigma, leading to an increase or worsening of their symptoms (Sirey et al., 2001). It has also been established that public and self-stigma may increase suicidal ideation in people with mental illnesses (Oexle et al., 2016). Therefore, the question arises whether people diagnosed with PGD also suffer from consequences of both public and self-stigma. Especially individuals with severe grief reactions report to be in need of more support (Aoun et al., 2015). However, individuals

with symptoms of grief disorders are also the ones who do not seek the help they need (Lichtenthal et al., 2011). This might lead to a persistence of grief.

Overall, research on stigma toward people with PGD is rather new. Since the inclusion of grief disorders in diagnostic manuals this topic has gained interest. Beforehand, a study by Johnson et al. (2009) concluded that bereaved individuals with more severe grief reactions elicit negative social reactions. However, affected individuals with complicated grief perceived a diagnosis as helpful, as it makes them feel acknowledged and understood (Johnson et al., 2009).

More importantly, over the past years multiple experimental studies on public stigma toward individuals with PGD emerged (Eisma, 2018; Eisma et al., 2019). Public stigma was measured here by assessing attributions, emotional reactions, and preferred social distance toward an individual in bereavement with PGD. Participants either received a vignette describing a person with a PGD diagnosis or without a PGD diagnosis. Overall, participants who read the vignette with the PGD diagnosis judged the person to be less competent, warm, emotionally stable, more dependent and sensitive, compared to the reference group. This person also elicited more feelings of anger, anxiety and prosocial emotions in participants. Furthermore, participants indicated a larger preferred social distance toward individuals with PGD (Eisma et al., 2019). Overall, the PGD diagnosis elicited stigmatizing responses in participants. Replications of this study in Germany and Australia show robustness of this effect across cultures (Dennis et al., 2021; Gonschor et al., 2020).

Given the manifold negative consequences of stigmatization, it is useful to assess if public stigma towards PGD can be reduced. In general, three strategies have been employed to reduce public stigma toward mental illness: education, contact and protest (Corrigan & Penn, 1999). A first strategy to reduce mental illness stigma is education. This strategy entails directly

targeting people's stereotypes and replacing these with factual information through education campaigns (Corrigan et al., 2012). The strategy is grounded in the assumption that individuals who lack knowledge of mental illnesses are more likely to stigmatize (Corrigan & Penn, 1999). A second approach to reduce stigma is by encouraging contact between two groups. The interaction between the stigmatized and those who stigmatize can reduce prejudice and stereotypes (Corrigan et al., 2012). The third approach is protest, a strategy which highlights the wrongdoings of stigma (Corrigan et al., 2012). This is done by showing public disapproval of stigmatizing behavior and cognitions toward people with mental illnesses, for instance with public demonstrations (Arboleda-Flórez & Stuart, 2012).

While the protest strategy poses the risk of a "rebound effect" which may worsen attitudes towards the stigmatized group (Corrigan et al., 2001; Macrae et al., 1994), education and contact are viewed as most effective. These two strategies were found to improve attitudes and behavioral intentions toward people with mental illnesses (Corrigan et al., 2012).

Educational activities have significant effects on indicators of public stigma, as such, they reduce negative affect toward and social avoidance of people with mental illnesses (Corrigan et al., 2012). Especially in younger populations, short educational training showed a reduction of stigma (Pinfold et al., 2003; Watson et al., 2004; Yamaguchi et al., 2011). Additionally, the contact intervention shows promising effects in improving attitudes toward individuals with mental health illnesses (Thornicroft et al., 2016). To show sufficient results, contact does not have to be face-to-face, it can also be implemented in forms of a video (Reinke et al., 2004).

In the context of educational interventions, the term Mental Health Literacy (MHL) is important. It is defined as the "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 1997, p. 182). However, improving MHL

also encourages actions in supporting people with a mental health disorder (Jorm, 2012). Very prominent examples for this are the *beyondblue* campaign in Australia and the German *Nuremberg Alliance Against Depression* (Jorm, 2012). Both are known to have effectively increased knowledge and awareness about depression by using educational activities such as free information on the internet and advertising (Jorm, 2012). While a less knowledge goes along with more stigma (Eksteen et al., 2017), targeting the knowledge about a subject might be one of the most important aspects when reducing stigma.

Overall, education and contact interventions are the most efficient and easy to apply, while also showing success in the reduction of public stigma toward people with mental illnesses (Corrigan et al., 2012). Combining these two strategies has been a efficacious approach (Lien et al., 2020) and reduced stigma sustained for up to 6 months in students (Pinfold et al., 2003). Given the existence of public stigma toward PGD and its potential negative consequences, it is worthwhile to investigate whether public stigma toward PGD can be reduced with a combined education-contact intervention.

The current study will thus examine experimentally whether an education-contact intervention will reduce public stigma toward PGD. This education-contact intervention in the form of a video will be shown to the intervention group. The reference group will receive no intervention. Both groups will read a vignette, describing a person with a diagnosis of complicated grief. Public stigma will be comprehensively assessed by specifically measuring attributions, emotional reactions and preferred social distance.

Against this background, it is hypothesized that participants in the education-contact intervention group (vs. no intervention) will react with less negative attributions and emotions, and less preferred social distance toward an individual with PGD.

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 reference 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 ($\chi^2(2) = 2.68, p = .262$), education level ($\chi^2(3) = 6.32, p = .097$), currently studying ($\chi^2(1) = 0.58, p = .447$), proportion of psychology students ($\chi^2(4) = 6.51, p = .164$), and having experienced bereavement in the past three years, ($\chi^2(1) = 2.13, p = .145$), and English speaking abilities ($\chi^2(2) = 3.07, p = .216$). 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, ($\chi^2(2) = 10.11, p = .006$) (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 didn't 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 ($\chi^2 (1) = 6.35, p = .012$); studying psychology ($\chi^2 (4) = 68.25, p < .001$); educational level ($\chi^2 (3) = 18.77, p < .001$); experience of bereavement in the past three years ($\chi^2 (1) = 7.57, p = .006$) and nationality ($\chi^2 (44) = 97.17, p < .001$). 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 current study was the first to experimentally investigate whether an education-contact intervention could reduce public stigma toward an individual with PGD. The intervention in the form of a video resulted in a small reduction of stigma. More specifically, participants reported less anger-related emotional reactions toward the individual in the vignette and perceived him as less sensitive, compared to the control group. Contrary to the hypothesis, no

significant effect was found for other indicators of stigma that were assessed in the study.

Overall, the significant effects were not consistent and only small in size.

There might be several explanations for these findings on the reduction of stigma. In general, individuals with mental illnesses are viewed as personally responsible for their situation. This in turn can lead to anger toward individuals with mental illnesses because it is thought that they could have avoided the negative situation (Corrigan et al., 2003). The current intervention might have affected exactly this belief. It showed that individuals with complicated grief bear no responsibility over their situations. As the video provided clear information that complicated grief can evolve in everyone, participants might have shifted their beliefs on the responsibility of affected persons.

Additionally, the indirect contact provided by the video demonstrated someone who recovered from complicated grief. By providing evidence of successful treatment, it was highlighted that people with complicated grief are capable of living a good life when they get effective help. This explanation is also supported by other studies on stigma interventions (Sartorius & Schulze, 2006; Wood & Wahl, 2006). Seeing the woman in the video recovered from complicated grief might therefore influence perceiving people with complicated grief as less sensitive, as she was able to deal with her bereavement.

Other education-contact interventions did, for instance, find a significant reduction in both preferred social distance and negative attitudes (Chan et al., 2009). Thus, the lack of effect when comes to preferred social distance in this study is incongruent with previous PGD research. Generally, preferred social distance poses an inconclusive aspect throughout the literature. Eisma (2018) indeed observed increased preferred social distance toward individuals diagnosed with

PGD. By contrast, Penman et al. (2014) reported moderate levels to interact with the person in bereavement.

The question arises as to why this education-contact intervention showed such small and inconsistent effects overall. While other studies found larger effects (Pinfold et al., 2003; Watson et al., 2004; Yamaguchi et al., 2011), the current intervention only resulted in a partial reduction of stigma. One factor limiting the effectiveness of the present intervention might be the type of information the video provided. Importantly, it has been suggested that declarative knowledge is needed to change stigmatizing beliefs (Anderson, 1976). With respect to a video, this would translate into objective information as its' central aspect since it influences the improvement of MHL (Jorm, 2012). Applied to the topic of PGD, this would mean targeting stigmatizing beliefs and attitudes that the public may hold (e.g., being less competent, more dependent et cetera), which was only partly represented in this study's video. That is, the video emphasized a personal narrative of experiencing the disorder. Further, contact interventions are known to work best when both groups share an equal status (Pettigrew et al., 2011). Participants in the current study were mostly students or young adults and might have difficulty relating to a middle-aged woman in the video. Another factor undermining the effect size might relate to the knowledge and low stigmatizing beliefs of the present population (Angermeyer & Dietrich, 2006; Collins et al., 2014). Specifically, the video's content might not have added substantial information to yield noticeable effects. Finally, the video only provided indirect contact with the person in bereavement. Although there is evidence supporting videos as a fruitful way of reducing stigma (Reinke et al., 2004), this might not apply to broader conditions than thus far investigated in.

Overall, the small and inconsistent effects compromised the clinical relevance of our study since it is unclear to what extent the intervention can be effective in reducing the various

ways in which stigma toward PGD manifests. Notwithstanding, the present findings support the relevance of interventions in the reduction of stigma in the realm of PGD as emphasized by findings of Eisma (2018) and Eisma et al. (2019).

The major strength of this study lies in the robust experimental design. Furthermore, the study used materials such as the vignette, that were used in past studies and are based on recent criteria for PGD (Maercker et al., 2013) and PGD criteria in the ICD-11 (World Health Organization, 2019). Additionally, public stigma was comprehensively assessed with vignettes and scales applied previously in other studies on stigma toward PGD (Eisma 2018; Eisma et al., 2019).

Nevertheless, the study also has some limitations. The first one refers to the choice of sample. Due to time restrictions and local Covid-19 measures it was not possible to recruit a random sample from the general public. Therefore, the current study used a convenience sample which mainly contained students of the Dutch population, of which predominantly student and female participants ended up finishing the study. It remains to be established if the results can be generalized to other populations. Background characteristics of participants also indicated a large number of psychology students, of whom first-year students received SONA credits. This might have rendered them more eager to finish the study. Their particular study background implies knowledge of mental illnesses and specifically of interventions against stigma. Therefore, future research should employ the intervention in a random sample and consider the state of awareness about grief disorders of the population investigated. Moreover, many participants, especially students, might have used smartphones for the study which resulted in technical issues, such as the video not working properly. The sensitivity analysis further revealed slightly different results after removing participants who answered both questions of the manipulation check of the video

and/or vignette wrong. This implies that many participants did not pay sufficient attention, which might have caused these inconsistent and small effects. Conducting a future study in a laboratory setting might resolve the issue.

Also, high dropout rates led to a smaller sample size and lower power of the study, which might have undermined the statistical significance of current variables of interest. It also led to unequal group sizes between the intervention and non-intervention group, which, however, does not pose a statistical limitation in the confines of the chi-square test (McHugh, 2013).

Lastly, the current study did not assess long-term reductions in stigma. When answering the questions about the person in the vignette, participants' memory of the video was most certainly very fresh. Future research could investigate this effect with a follow-up measurement (see Ke et al., 2014). Moreover, based on evidence that real-life contact has been found very effective in reducing stigma (Corrigan et al., 2012), stronger effects on the reduction of stigma could be established with more direct forms of contact. However, investigating this effect on stigma toward PGD warrants further research.

Despite these limitations, this study is the first one investigating experimentally whether an education-contact intervention reduces public stigma toward people with PGD. Notably, results show a small, albeit inconsistent, reduction of public stigma. More specifically, the intervention was able to reduce participants' feelings of anger toward a person with complicated grief. As well as reduced the perceptions of a person with PGD being sensitive. These findings give reason to further investigate interventions targeting public stigma toward grief disorders.

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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 (<i>n</i> = 198)	No Intervention Video (<i>n</i> = 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 (N (%))	Yes	84 (42.2)	113 (49.2)
	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.