

**Testing an Educational and Contact-based Intervention to Reduce Public Stigma
Towards Complicated Grief**

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Abstract

Background: Public stigma towards individuals with grief disorders appears to be prevalent in society and may be associated with negative consequences such as discrimination, depression, and reduced help-seeking behaviours. Low levels of mental health literacy could be linked to public stigma reactions. Evidence exists that a range of anti-stigma interventions have been successful for a variety of mental disorders, yet no studies to date have examined whether public stigma interventions for grief disorders are effective. The present experimental study investigated the effect of a mixed educational and contact-based intervention on public stigma towards a person with complicated grief.

Methods: We randomly assigned 464 participants (73% female, mean age: 26.1 years), mostly from the Dutch and German population, to either watch a short video intervention or to receive no intervention, and to later read a vignette describing a fictional bereaved male subject with the diagnosis complicated grief. Participants were then asked to rate this person on three components of public stigma, consisting of attributions, emotional reactions, and preferred social distance towards the subject.

Results: Participants who watched the video (versus the control group), expressed less public stigma towards the person with complicated grief; they judged the person to be less sensitive and responded with less angry emotions. No effects were found for competency, warmth, emotional stability, and dependency attributions, nor for elicited emotional reactions of fear and prosocial emotions, as well as no effects for preferred social distance.

Conclusion: Results show that a mixed educational and contact-based intervention may be a useful method to reduce public stigma experienced by individuals diagnosed with complicated grief and other grief disorders.

Keywords: complicated grief, public stigma, educational and contact-based intervention, video intervention

Testing an Educational and Contact-based Intervention to Reduce Public Stigma Towards Complicated Grief

Nearly every person experiences the loss of a loved one in their lifetime. Grief is viewed as an unavoidable, universal, and normal reaction to a loss (Prigerson et al., 2009; Thimm et al., 2020) and has been ranked as one of the most distressing life events (Holmes & Rahe, 1967). Bereaved individuals often experience acute grief as the initial response to a death, characterised by strong feelings of sorrow and longing for the deceased (Bowlby, 1980). Following this, acute grief eventually evolves into integrated grief, the long-term response after adaptation to a loss, in which satisfaction in ongoing life is re-established (Shear et al., 2013) and the ability to maintain one's usual level of functioning is restored (Nielsen et al., 2020). For an estimated ten percent of bereaved individuals experiencing death due to natural causes (Lundorff et al., 2017) and an estimated 49% following a violent death (Djelantik et al., 2020), contextual or internal complications in the healing process can disrupt successful adjustment to a loss (Comtesse et al., 2020). These difficulties prolong acute grief and cause the experience of persistent, disabling grief and prolonged functional impairment (Jordan & Litz, 2014). Such non-normative grief reactions are associated with a heightened likelihood of developing mental and physical health problems such as depression, anxiety, identity confusion, an increased use of a broad range of health services, as well as higher risk of self-harm, substance misuse and suicide (Latham & Prigerson, 2004; Prigerson et al., 2009; Thimm et al., 2020).

In the last decades, clinicians and researchers have attempted to describe persistent and disabling grief reactions by using terms such as “traumatic”, “pathological”, “prolonged” and “complicated” grief (Wagner & Maercker, 2010). While a consensus for the term is currently under debate, there is growing evidence that symptoms of clinically complicated grief are distinctive from normal grief reactions, symptoms of anxiety, and depression that can occur

after bereavement (Boelen & Prigerson, 2013). Recently, Prolonged Grief Disorder (PGD) was added to the International Classification of Diseases'11 (ICD-11; World Health Organization, 2020), defined by a disturbance in which, following the death of a partner, parent, child, or another person close to the bereaved, there is a persistent and pervasive grief response. This response is further characterised by a persistent longing for and/or persistent preoccupation with the deceased accompanied by intense emotional pain, persisting six months after the bereavement (World Health Organisation, 2018). Additionally, Persistent Complex Bereavement Disorder has been added to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) under conditions for further study (American Psychiatric Association, 2013), which will be superseded by an alternative version of PGD that will be incorporated in the text revision of the DSM-5 (American Psychiatric Association, 2021).

Categorising grief disorders in diagnostic handbooks, has important consequences for both individuals and society (Gonschor et al., 2020). For one, it increases research efforts, promotes understanding and familiarity between normal and complicated grief reactions, and provides access to effective grief-specific treatments to reduce complicated grief. Nevertheless, the concern exists that the establishment of grief disorders may lead to stigmatisation (for a brief overview: Eisma, 2018).

Stigma can be defined as the co-occurrence of labelling, stereotyping, separation, and discrimination in a context in which power is exercised (Link & Phelan, 2001) and is often divided into two separate mechanisms: public stigma and self-stigma (Vogel et al., 2013). Public stigma refers to a set of negative attitudes and beliefs endorsed by the general population that motivate to fear, reject, avoid, and discriminate against people with a mental illness (Corrigan & Penn, 1999). These negative reactions, as well as a larger preferred social distance, have been observed across a broad range of psychological disorders, such as depression and schizophrenia (Schomerus et al., 2012). Stigma by the public can also

influence self-stigma within people with a mental illness, defined as the reduction in a person's self-esteem or sense of self-worth, due to the individual's self-perception that he or she is socially unacceptable (Vogel et al., 2006). Increased amounts of public stigma are generally associated with greater self-stigma (Evans-Lacko et al., 2014). While stigma, in general, may manifest itself differently depending on the type of disorder (Sheehan et al., 2017), it gives rise to a widespread number of negative consequences that impact the well-being of individuals. Due to stigma, people with mental illness experience discrimination in various domains of their life, including housing, employment, and medical care (Corrigan & Kleinlein, 2005). Discrimination is expressed in forms of withholding help, social avoidance, and coercive treatment (Corrigan & Watson, 2002). Additionally, stigma is also associated with a decrease in treatment-seeking, premature termination of mental health treatments (Sirey et al., 2001), and an increased likelihood of depression and suicidality (Carpiniello & Pinna, 2017).

Public stigma, in particular, may be detrimental for people who experience prolonged grief reactions, as they may require more help during their grieving process yet are less likely to receive social support from others, which is considered a crucial factor in coping with bereavement (Logan et al., 2018). One study found that an increase in grief response severity in people gave rise to more negative social reactions from others (Johnson et al., 2009). Four further vignette-based experiments (Eisma, 2018; Eisma et al., 2019; Dennis et al., 2021; Gonschor et al., 2020) found persons with PGD, to be judged as less competent, warm, emotionally stable, more dependent, and sensitive, as well as eliciting more feelings of anger and anxiety, in addition to more prosocial emotions, and a stronger desire for social distance. This body of evidence supports the fact that prolonged grief reactions elicit negative social responses, and it supports the concern that the establishment of grief disorders in the ICD'11 and the DSM-5 may lead to public stigma.

Given the potential negative consequences of stigmatisation, it appears to be useful to examine ways of reducing stigma towards people with complicated grief. To do so, it is important to target malleable causes of stigmatisation. One such cause may be mental health literacy (MHL). MHL is defined as the knowledge and beliefs about mental disorders which aid their recognition, management, prevention (Jorm, 2012), and understanding of ways to reduce stigma (Kutcher et al., 2016). Evidence from the literature shows that MHL is thus far considered poor amongst the general population for a wide range of psychiatric disorders, including schizophrenia, mood disorders, anxiety disorders, and eating disorders (Tay et al., 2018, Goldney et al., 2001; Jorm et al., 1997). MHL may need to be improved for public stigma to decrease. A cross-sectional study found that a higher degree of MHL was linked to more positive attitudes and less desire for social distance towards people with depression (Svensson & Hansson, 2016). Another study (Griffiths et al., 2008) suggests that increasing depression literacy through community de-stigmatising interventions may also reduce strong negative public attitudes. These findings raise the question of whether similar effects may be observed in public stigma reactions towards grief disorders.

Low grief MHL amongst the population is likely to be prevalent, with one scholar stating that we live in a grief-denying society (Macdonald, 2020). Bereaved persons often report that their close others “disappear”, lack compassion, and convey insensitive comments resulting from unawareness of how to be supportive (Aoun et al., 2018). Interestingly, Clark (2003) developed the term “grief literacy”, a type of MHL for grief specifically. This proposed “movement” aims to “enable the general public and professionals to identify grief more readily, to seek out relevant information and adopt appropriate support and thereby be proactive in avoiding complications from the grieving process such as depression” (p. 307). Grief literacy was brought to light again in a recent paper (Breen et al., 2020), emphasising the importance of the facilitation of a societal shift towards a more grief accepting, less

stigmatising society, with the help of appropriate interventions, such as educational approaches that expand and challenge knowledge and community-based initiatives to promote public support and collective grieving.

Many interventions have already been developed that aim to combat public stigma towards people with mental disorders. Such interventions can be divided into three paradigms: education, contact, and protest (Corrigan et al., 1999; Corrigan et al., 2012). Educational interventions aim to present information to people about the stigmatised condition to correct and replace false beliefs (National Academies of Sciences, Engineering, and Medicine, 2016) and strengthen MHL (Bjornsen et al., 2019). Contact-based interventions use direct or indirect interactions, between the public and stigmatised individuals, to combat the discomfort and fear the public may feel and aim at facilitating positive connections between these two groups. Protest interventions highlight stigma injustice and are aimed at criticising the public for their stereotypes and discrimination towards people with mental illness.

A meta-analysis (Corrigan et al., 2012) found small to moderate effect sizes on the reduction of stigma by both education and contact-based interventions (in-person contact being superior to video contact; Gronholm et al., 2017; Yamaguchi, 2013). Protest interventions did not lead to significant changes in stigma. Strikingly, for younger people, including students, an educational intervention reduced stigmatising reactions more successfully compared to contact with people with a mental illness (National Academies of Sciences, Engineering, and Medicine, 2016; Corrigan et al., 2012). This may be the case as younger people's beliefs about mental illness may not be as strongly developed and, therefore, may be more responsive to the influence of educational interventions. Finally, a further meta-analysis showed that a mixed education and contact-based intervention reduced public stigmatising reactions more than education alone (Morgan et al., 2018)

To our knowledge, while there is ample evidence that PGD elicits public stigma, there has been no prior research conducted investigating the impact of an intervention on public stigma for complicated grief. Our experimental study aims to evaluate a mixed education and contact-based intervention among members of the public to comprehensively observe the impact on public stigmatising reactions towards people with complicated grief. In line with previous evidence, we hypothesise that, in a vignette-based experiment, people receiving the intervention will show fewer stigmatising responses towards a person with complicated grief compared to people in the condition that does not receive the intervention.

Methods

Sample and Procedure

The Ethics Committee of the Faculty of Behavioural and Social Sciences provided formal 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 through social media web-links, as well as 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 who were approached in public places in Groningen, 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 aim was 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 consisted of 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 complicated grief. 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 aims of the study (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 most 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 shows an expert providing education on complicated grief, as well as a person experiencing symptoms of complicated grief. The video (see References for the link) was created by the American Psychiatric Association (2020) and covers different aspects and symptoms of complicated grief. It additionally touches on the effectiveness of a 16-session manualised proven-effective treatment for complicated grief. The expert explains that the woman in the video is yearning strongly for her son and therefore, is unable to engage in meaningful activities, parallels to this can also be seen from the person described in the vignette. Initially, the video was not designed to target public stigma, however, it may serve as a public stigma intervention. It combines education, by providing accurate information about complicated grief and its treatment as well as contact by showing someone who has personal experience suffering from complicated grief herself (Gronholm et al., 2017).

Vignette

This study used a vignette, 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 is based on previous studies on public stigma towards PGD such as Dennis et al. (2021) and Eisma et al. (2019). The vignette (see Table 1), depicts a fictional person named Mark who is experiencing severe prolonged grief reactions 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 the intervention and control group received the 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), as well as the criteria for PGD in the DSM-5 (DSM-5-TR; American Psychiatric Association, 2020). The vignette contains the time criterion and five symptoms for PGD. According to the DSM-5-TR, these include that a disturbance following the death should last at least 12 months 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 as 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 indicate their answers on several public stigma scales. 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 & 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 the Multivariate Analysis of Variance (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 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 most 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 present study investigated the effect of an educational and contact-based video intervention on public stigma towards a person with complicated grief. We expected the group assigned to the video intervention to show fewer stigmatising responses towards a fictional person (Mark), with a complicated grief diagnosis, described in a vignette. The main analysis yielded an overall significant effect of the video intervention on public stigma compared to no intervention. More precisely, Mark was perceived as less sensitive and elicited less anger among those who had watched the intervention video compared to those who had not. Small effect sizes were found for both variables. However, in contrast to our prior expectations, no significant differences were found between the two groups for competent, warm, emotionally stable, and dependent attributions. Additionally, we found no differences in elicited emotional reactions of fear, prosocial emotions, and no differences in the preferred social distance towards Mark.

These findings, to an extent, complement previous research that has shown that educational interventions, contact-based interventions, or a combination of both, have been successful in reducing public stigma towards people with mental disorders (Corrigan et al., 2012; Yamaguchi, 2013; Gronholm et al., 2017; Morgan et al., 2018). Our video intervention

likely targeted the malleable factor of MHL (Jorm, 2012), specifically grief literacy (Clark, 2003), due to the educational component of the intervention, thereby increasing it. Increased MHL has previously been shown to reduce negative public attitudes and decrease the desire for social distance (Griffiths et al., 2014; Svensson & Hansson, 2016). Assuming our intervention was successful at raising levels of grief MHL, the promotion of societal education on grief disorders may be considered as a target for future interventions to sustainably combat public stigma.

Our findings suggest that education and contact may have some value in public stigma change, however, we are uncertain which component had a larger influence on participants' public stigma towards a person with complicated grief in our intervention. Evidence states that contact interventions are generally most successful in improving adults' public attitudes and behavioural intentions towards people with mental illness (Corrigan et al., 2012). For younger people, however, an education intervention should yield greater effects. Based on this, we would have expected to find significant effects of our intervention on more than two public stigma variables, as our participants, who mainly consisted of younger people and students, should have responded to the education component. This was, however, not the case. We also do not know how effective the contact component was for our sample. Later studies may want to devote efforts to disentangle the separate influences of both the education and contact components on public stigma interventions for grief disorders as well as investigate how these differ from a combined intervention and test these amongst different age groups.

There could be a few reasons why our intervention was only successful for two of the nine public stigma variables. Certain characteristics of the video may have been able to target the sensitivity and anger variables more easily than other domains of public stigma. For instance, parts of the video show the woman successfully recovering in treatment after she struggled with complicated grief. Recovery from a mental disorder can often be perceived

with a lot of strength and resiliency, which are opposite attributions to sensitivity. It could be possible that this judgment was carried over to participants' evaluations of Mark. Second, participants may have believed that it would be socially unacceptable to react angrily to a person experiencing complicated grief after seeing the intervention video. They could have reacted with more empathy towards Mark because they may have felt like they were expected to do so. However, it should be noted that we did not find effects on prosocial emotions, such as empathy.

This study also has several clinical implications. We can conclude that an anti-public stigma video intervention for grief disorders may be successful to some degree. This provided a proof-of-principle demonstration that calls for careful future investigation of the effectiveness of the specific components of education and contact in the video and the observation of whether their influence on public stigma would differ for more informative, longer, and larger-scale intervention videos. Provided that more intensive video interventions yield larger and sustained public stigma effects, implementation of such interventions could be considered in community areas, at schools, and universities, as video interventions are likely advantageous, due to requiring less effort to produce and being easy to spread.

Reducing public stigma towards grief disorders should not only be limited to video interventions but rather the focus should also lie on the development of a broad range of small and large-scale interventions to implement into the wider community. Interventions such as *beyondblue* and the *Nuremberg Alliance Against Depression* are large and widespread community campaigns for mental disorders, that, with the help of advertisements, prominent person speeches, and free information materials, have successfully been able to produce mental health awareness, positive public attitudes, and openness towards mental disorders amongst members of the general population (Jorm, 2012). Evidence suggests that mental health first aid training and web-based interventions may also be effective. Emphasis should,

therefore, be placed on developing robust community interventions that incorporate information about grief disorders. While public stigma is linked to the classification of PGD in diagnostic handbooks (Eisma et al., 2019), public stigma may potentially influence self-stigma (Evans-Lack et al., 2014) towards PGD as well. It would be interesting to observe whether educational and contact-based interventions, when presented to persons with PGD, would produce similar effects for a person's self-stigma.

The notable strengths of this study were its experimental design with a manipulation check and the use of a unique educational and contact-based intervention aimed at reducing public stigma towards a person with complicated grief. To our knowledge, such an intervention has not been used previously. Additionally, the study made the use of a strong evidence-based vignette built on recent PGD criteria (Maercker et al., 2013; World Health Organisation, 2018), that has repeatedly been shown to elicit public stigma in participants in previous studies, as well as the use of reliable, multifaceted, and well-established public stigma indicators (Eisma, 2018; Eisma et al., 2019).

This study also has several limitations. First, we used convenience sampling, in which we recruited friends, family members, students, and people on the street. In addition to this we made use of the SONA pool for first-year students. Due to this approach, more (psychology) students, younger people, and females participated in our study. It remains to be investigated whether our findings would apply to a more representative sample (also in other countries) that includes fewer students, older people, and more males. A further attrition analysis also showed that more students, people with high school/college education, people working full time, and people who experienced bereavement in the last three years to be in the group that completed the survey. This may similarly impact the generalisability of our results. For example, Psychology students and people who had experienced bereavement in the past three years may have had other motivations to complete the study (i.e., obtaining SONA credits or

feeling that the topic at hand was personally relevant to them). Future studies should make sure that both groups do not differ on background characteristics and observe whether the effects on public stigma towards people with complicated grief, still hold.

Second, a high participant drop-out rate was concluded during our main analysis, especially by participants who were assigned to the video-intervention condition. Several factors could be responsible for this. For one, some participants tried to complete the questionnaire while on the go, which went against our prerequisites presented in Qualtrics to “complete the survey in a quiet place in which you are not disturbed”. Some participants probably exited out of the survey and when accessing it again at home, were likely assigned to the no-video intervention condition, due to our randomisation. Another reason for the drop-out may be a technical error of the timed arrows after the vignette and video in Qualtrics, which sometimes lead the arrow, to continue the survey, not to show up. As participants could not move on to the next page, they also exited out. Participant dropouts influenced our overall sample size, as well as created unequal group sizes (the video intervention condition sample size was significantly smaller than the no-video intervention condition), which subsequently reduced the power of the study. Future research should recruit enough participants and pay close attention to technical errors and other reasons that may lead participants to drop out to obtain the required power.

Third, our research only focused on the short-term effects that a video intervention had on public stigma towards complicated grief and does not assess for long-term effects. Later studies may implement a similar video intervention and make use of follow-ups or longitudinal study designs to observe whether fewer public negative attitudes could be maintained over time. Fourth, the video we used for our intervention was not produced with the primary intention of being a video intervention to use to try and reduce public stigma towards complicated grief. We can assume that the video incorporates education and contact

components and had some positive effect on public stigmatising reactions, yet we are uncertain how suitable of a match the video is as an intervention for public stigma towards grief disorders.

Despite limitations, this is the first experimental study to test the effect of an educational and contact-based intervention on public stigma towards people with complicated grief. Overall, people assigned to the video intervention rated a person with complicated grief with less public stigma, specifically viewing a person as less sensitive and experiencing less angry emotions in response to this person. This suggests that a video intervention may be effective in reducing public stigma towards people with complicated grief and it would be worthwhile to devote future research to investigate where, to what degree, and on which scale such interventions should be implemented to be most successful and sustainable. Our findings suggest a possibility to develop evidence-based interventions to reduce public stigma towards people with complicated grief.

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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
Competent	2.61	0.74	2.56	0.69
Warm	2.95	0.83	2.89	0.79
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.