Reducing Stigma towards Complicated Grief via an Educational and Contact-based

Intervention: an Experiment

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Abstract

Background: Prior research demonstrated that complicated grief symptoms could lead to stigmatizing public reactions (i.e., public stigma). Furthermore, stigma is related to various negative consequences. This highlights the need to investigate approaches to reduce stigma. *Method:* This experiment aims to examine how an online intervention, in the form of a video, affects public stigma. The intervention includes education about complicated grief and shows a person who experienced complicated grief symptoms (a contact intervention). Participants ($N = 464$; 73% female; $M_{age} = 26.05$, $SD = 12.13$), mainly from the Dutch and German general population, were randomly allocated to either the video condition ($n = 198$) or the control condition (no intervention) ($n = 266$). After this, all participants read a vignette which described a person with a complicated grief diagnosis. Public stigma was assessed by examining negative attributions, emotional reactions and the desire for social distance in response to this person. *Results:* The findings showed that the intervention had a significant effect on public stigma ($p = .015$). A person with complicated grief was judged as less sensitive ($p = .029$) and elicited less feelings of anger after watching the video ($p = .004$). *Conclusion:* The results suggest that an educational and contact-based intervention could be used to reduce aspects of public stigma. Future research can use these findings to improve interventions to reduce complicated grief-related stigma and its negative consequences.

Keywords: complicated grief, prolonged grief disorder, public stigma, intervention, stigma reduction, experiment

Reducing Stigma towards Complicated Grief via an Educational and Contact-based

Intervention: an Experiment

Most people experience grief at some point in their lives. In the vast majority of cases the intense grief subsides after a period of months (Prigerson, Kakarala, et al., 2021). However, a minority of bereaved individuals experience pervasive and distressing symptoms of grief and meet the criteria for Prolonged Grief Disorder (PGD) (Rosner et al., 2021). There is growing evidence that symptoms of prolonged and severe grief are distinguishable from symptoms of uncomplicated grief (Dillen et al., 2008; Boelen & Van den Bout, 2008; Prigerson, Kakarala et al., 2021). Furthermore, such symptoms incrementally predict disability and distress, after controlling for symptoms of the neighboring disorders (Prigerson et al., 2009). The distinctive phenomenology and the adverse consequences of prolonged grief has therefore culminated in the inclusion of a new diagnostic category in the International Classification of Diseases 11 (ICD-11; World Health Organization, 2018). Additionally, a different version of PGD will also be included in the text revision of the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5-TR) (American Psychiatric Association, 2021).

In order to meet the criteria for PGD one must experience a preoccupation with thoughts of the deceased and/or severe longing or yearning for the deceased person. Depending on which version of PGD is considered, additional symptoms indicative of intense emotional pain (ICD-11; World Health Organization, 2018) or other symptoms (DSM-5-TR) (American Psychiatric Association, 2021) are needed to meet the criteria for each diagnosis. Besides differences in diagnostic criteria, prolonged grief symptoms have been referred to with a variety of terms in the past. Historically the term "complicated grief" has been used in order to establish a single diagnostic entity of pathological symptoms following bereavement (Lichtenthal et al., 2004; Prigerson, Kakarala et al., 2021). For reading ease, the term

"complicated grief" will also be used in this study to refer to the different grief disorders proposed over the years.

Since grief is an expected and normal response to death there have been concerns about "pathologizing" grief (Prigerson, Boelen, et al., 2021). Whereas the establishment of complicated grief as a disorder can lead to a better understanding of normal grief and pathological grief, clinicians, researchers and members of the public have raised concerns that a diagnosis of pathological grief might lead to mental health stigma (Bandini, 2015; Breen et al., 2015; Ogden & Simmonds, 2014; Dietl et al., 2018).

Stigma has been defined as a combination of discrimination, labelling, stereotyping, separation and status loss in a context where power is exercised (Link & Phelan, 2001). Regarding mental illness, two major categories of stigma can be distinguished: the perspective of those doing the stigmatizing, mostly the general public, and the perspective of the people being stigmatized, typically individuals with a mental illness (Fox et al., 2018). The former perspective includes public stigma, which has been defined as "the phenomenon of large social groups endorsing stereotypes about and acting against a stigmatized group" (Corrigan et al., 2005, p. 179). The latter, looking at the perspective of the stigmatized, includes self-stigma. Self-stigma may result when the stigmatizing ideas are seen as self-relevant (Corrigan et al., 2005). For example, individuals with a mental illness may view themselves as less valuable because of their disorder, as a consequence of internalizing the public stigma.

Mental health stigma can have adverse consequences to the well-being of individuals: with regard to public stigma, discriminating reactions towards people with mental illnesses are found in different contexts, like receiving medical help (Thornicroft, 2007), employment (Stuart, 2006) and housing (Corrigan et al., 2003). Additionally, self-stigma is associated with increased symptom severity, reduced treatment adherence (Livingston & Boyd, 2010), suicidality (Carpiniello & Pinna, 2017), and a reduction in treatment-seeking (Clement et al.,

2015). Stigma is especially relevant with regard to complicated grief, particularly because stigma might lead to a decline in social support, which may aid coping with bereavement (Scott et al., 2020).

Prior research has demonstrated that people with severe grief reactions report experiencing stigmatizing social responses from their environment (Johnson et al., 2009). Additionally, four vignette-based experiments demonstrated that people from the general public show more stigmatizing reactions in response to a vignette describing a person with a PGD diagnosis compared to a vignette describing a person with non-clinical grief (Eisma, 2018; Eisma et al., 2019; Gonschor et al., 2020; Dennis et al., 2021). These experiments assessed three aspects of public stigma, which are commonly used as dependent variables (Link et al., 2004): attributions, emotional reactions, and the desire for social distance in response to a person. Interestingly, the symptoms of PGD, but not the diagnostic label per se, appeared to cause public stigma (Gonschor et al., 2020). Yet, the findings of these studies all point in the same direction: complicated grief symptoms elicit public stigma (Eisma, 2018; Eisma et al., 2019; Gonschor et al., 2020; Dennis et al., 2021).

Given the manifold negative consequences of stigmatization, it appears useful to investigate how public stigma towards complicated grief could be reduced. Familiarity (i.e., knowledge of and experience with mental illness) might be an important factor to target in interventions aiming for stigma reduction, since it was found to be a predictor of public stigma for complicated grief. More specifically, people who experienced higher bereavement-related distress showed less public stigma (Gonschor et al., 2021). This is in line with research showing that greater familiarity with a mental disorder predicts less stigma (Griffiths et al., 2008; Aromaa et al., 2010). Another factor that may reduce public stigma could be mental health literacy (MHL). Literature describing the concept of MHL have found that interventions tailoring MHL reduced stigmatizing reactions and improved public support

(Jorm, 2012). MHL has been defined as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 1997, p. 182). MHL regarding depression has found to be associated with lower levels of public stigma (Griffiths et al., 2008), which suggests that public destigmatization programs should be targeted at people who have lower depression literacy levels. However, given the negative consequences of self-stigma (which can result from internalizing public stigma), MHL might also be an important factor to target on an individual level, for instance when providing treatment to people with mental illnesses.

In order to change public stigma different kinds of interventions have been developed. These interventions have been divided into three paradigms (Corrigan & Penn, 1999; Corrigan et al., 2012): education, protest and contact. In educational interventions inaccurate stereotypes are replaced by factual information. The second approach, protest, highlights the injustices of stigma and criticizes the people doing the stigmatizing for their stereotypes and discrimination. Interpersonal contact is the third approach to reduce stigma. In this strategy individuals of the general population will interact with members of the stigmatized group, either in person or via video. The idea is that contact with people with mental illnesses will lead to lower levels of prejudice experienced by members of the general public. The meta-analysis of Corrigan and colleagues (2012) found significant, but small to moderate (a Cohen's d between .10 and .30), effects for both education and contact (but not protest) in reducing public stigma.

The Current Study

In the present study we will examine how an educational and contact-based intervention, in the form of a video, affects the stigmatizing responses towards a person with complicated grief. Therefore, an experiment was conducted in which the participants in the experimental condition were asked to watch a video. The video featured an expert who

described the symptoms and treatment of complicated grief and a person telling about her personal experiences with complicated grief. Participants in the control condition did not receive any intervention. In line with prior research (Eisma, 2018; Eisma et al., 2019; Gonschor et al., 2020; Dennis et al., 2021), public stigma towards complicated grief was assessed by using a vignette. The vignette described a person with complicated grief and was shown to both groups. All participants were asked to fill in a survey in response to the vignette. The survey contained questions about negative attributions, negative emotional reactions and desire for social distance, which together constitute public stigma. We expected that the video intervention will reduce stigmatizing reactions. More specifically, we expect that participants in the experimental condition (compared to the control condition) will show fewer negative attributions, fewer negative emotional reactions and a desire for less social distance towards a person with complicated grief.

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

The experimental study was programmed in Qualtrics. Participants were informed that the study aimed to gain a better understanding of social reactions towards people experiencing grief. The procedure (e.g., data handling, the voluntariness of participation and anonymity) was explained and all participants provided online informed consent. Participants first filled out a background questionnaire on demographic information (e.g., gender, nationality) and whether they had experienced the death of a close other in the past three years. Participants were then randomly allocated to the intervention condition or the control condition. The intervention comprised an educational and contact-based video (see Materials). The control group did not watch a video. Next, both groups read a vignette (see Materials) describing a bereaved individual with 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 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. A number of 361 participants (44%) did not complete the full questionnaire. Additionally, 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. There were 198 participants (43%) in the video condition and 266 participants (57%) in the control condition (no intervention).

Power Analysis

The statistical power analysis program G*Power 3.1.9.7 is used to calculate the needed sample size (Faul et al., 2007). A multivariate analysis of variance (MANOVA) will be done with nine dependent variables comparing two groups. Additionally, univariate analyses will be done to assess which variables differ between the intervention and the control group. Based on the meta-analysis by Corrigan et al. (2012) the following input parameters are used for the univariate analyses: an effect size of $d = .20$, α error probability of .05 and a power of .80. Corrigan and colleagues (2012) found small to medium effect sizes for educational and contact-based interventions (Cohen's d between .10 and .30). Therefore, an effect size of $d = .20$ is used, which is equivalent to an effect size in between small and medium. A sample size of 620 participants is needed to detect an effect size of $d = .20$.

Materials

Intervention Video

The intervention video showed an expert and a person who experienced complicated grief symptoms. The video (see References for the link to 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. Additionally, it

explains how a complicated grief treatment works (in this video, a 16-sessions manualised

proven-effective treatment for complicated grief). The expert explains that the woman in the

video yearns strongly for her son and could not engage in meaningful activities anymore,

these symptoms are also described in the vignette (see 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)

(Corrigan et al., 2012).

Vignette

This study used a vignette to assess public stigma towards a person with a complicated

grief diagnosis. A vignette is a frequently used method to examine stigma (Link et al., 2004).

The vignette in this study is based on previous experimental studies on public stigma towards

PGD (e.g., Dennis et al., 2021; Eisma et al., 2019). The vignette, shown in Table 1, depicts a

fictional person named Mark who experiences severe grief and who 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. The vignette was shown to both the participants in the intervention group

and the control group. 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,

2018) and the criteria for PGD in the Diagnostic and Statistical Manual of Mental Disorders

(5th edition Text Revision; DSM-5-TR; American Psychiatric Association, 2021). 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 relatively strong grief responses (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 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 reliability was not computed because the attributions

scale consisted of heterogeneous items: both negative and positive attributions were assessed.

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 (e.g.,

gender, age, nationality, employment status 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 both manipulation check questions for the video and/or the

vignette 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, 1977).

Results

Assumptions Check

The following assumptions were checked using the software program SPSS (Version

26.0): (1) linearity, (2) normality, (3) homogeneity of variances, (4) homogeneity of variance-

covariance matrices, (5) absence of 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 $M = 54.34$, $p = .187$). 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. We ran analyses with and without outliers and this

did not change our main findings. Therefore, we retained all observations.

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.

Randomisation 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 ($\chi^2 (4) = 6.51$, $p = .164$), 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, (χ^2 (2) = 10.11, p = .006). There were significantly more

non-actively religious people in the intervention group (see Appendix B, Table B1).

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 (vs control group) on indicators of public stigma (Pillai's Trace = .044, F(9, 454)

= 2.31, p = .015, η_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) = 8.48, p = .004, η_p^2 = .018), and on the attribution "I would describe

Mark as: sensitive", (F(1, 462) = 4.81, p = .029, η_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, Table B2).

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 434 participants, 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 ($F(1, 432) = 7.66$, $p = .006$, $\eta_p^2 = .017$), for the attribution "I would describe Mark as emotionally stable" ($F(1, 432) = 4.13$, $p = .043$, $\eta_p^2 = .009$) and for the attribution "I would describe Mark as: sensitive" ($F(1, 432) = 4.70$, $p = .031$, $\eta_p^2 = .011$). Means indicated that participants in the intervention group reported fewer anger-related emotional reactions towards Mark, rated him as less sensitive and less emotionally stable, than participants in the control group.

Attrition Analysis

Out of the dataset of 826 people 121 people were deleted because they did not fill out any background characteristics, the remaining 705 participants were divided into two groups: one group that completed the survey (for at least 81%) and one group who did not complete the survey. To check whether there were any differences between the group of participants who did not complete the study and those who did complete the study, both groups (the attrition group $n = 241$ vs. the group who completed the survey $n = 464$) were compared on background characteristics.

Significant differences between the two groups were found on the following background characteristics: percentage of students ($\chi^2 (1) = 6.35$, $p = .012$); 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 ($\chi^2 (2) = 9.94$, $p = .007$). 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 experimentally examined how an educational and contact-based intervention, in the form of a video, affects the stigmatizing responses towards a person with complicated grief. We hypothesized that the video intervention would lead to less stigmatizing reactions. Our research findings were consistent with this hypothesis: we found that individuals who participated in the educational and contact-based intervention (compared to the control group) did express less public stigma towards a person with complicated grief. Specifically, a person with complicated grief was judged to be less sensitive. Additionally, participants experienced less feelings of anger towards the person with complicated grief after watching the video. These effects were small in size, which is consistent with the results of the meta-analysis of Corrigan and colleagues (2012), which showed small to moderate effect sizes for both education and contact-based interventions in reducing public stigma.

Additionally, the findings of the meta-analysis showed that the different interventions impacted three outcome areas of stigma (i.e., attitudes, affect and behavior) differently: educational interventions yielded greater effects on attitudes than contact did, while contact interventions yielded greater effects on behavioral intentions (Corrigan et al., 2012). Besides that, face-to-face contact (instead of a video) had the greatest effect on stigma reduction. These outcomes might explain why, contrary to the initial hypothesis, not all dependent variables were affected by our intervention. That is, participants in the intervention condition did not judge the person with complicated grief to be more warm, competent and emotionally stable. Neither did they view the person with complicated grief as more dependent or did the participants have less fearful emotional reactions towards this person. The preferred social distance and the prosocial emotional reactions were not affected by the video intervention either. In sum, different interventions impact different aspects of stigma and it would be worthwhile to investigate how changing the intervention (e.g., introducing face-to-face

contact with a person with complicated grief or providing more information about complicated grief) might impact the outcome areas of public stigma.

Our findings are particularly important because previous experimental research demonstrated robust results which indicated that complicated grief symptoms elicit public stigma (Eisma, 2018; Eisma et al., 2019; Gonschor et al., 2020; Dennis et al., 2021). Furthermore, public stigma is linked to various negative consequences: people with mental illnesses had to deal with discriminating reactions in different contexts (Thornicroft, 2007; Stuart, 2006; Corrigan et al., 2003) and self-stigma (which can be a consequence of public stigma) is linked to increased symptom severity (Livingston & Boyd, 2010), suicidality (Carpiniello & Pinna, 2017), and a reduction in treatment-seeking (Clement et al., 2015).

The findings of this study have multiple potential implications. First, this experiment shows that a video intervention could be used to reduce aspects of public stigma towards a person with complicated grief, which may aid the reduction of the severe consequences of stigmatization. Second, although the statistically significant differences between the intervention group and the control group were few and small in size, the findings of this study can be used to develop future interventions: the brief video intervention could be used as a template to make further improvements to target the other aspects of stigma as well, and to test the effects of this in future research.

Notable strengths of this study are the experimental design, the standardized delivery of the intervention, and the multifaceted assessment of stigmatizing reactions. In addition, a manipulation check was included as a check of attention for the intervention and the vignette. Moreover, this study was the first known study to investigate the effects of a brief online intervention with regard to complicated grief-related stigma, adding unique information to empirical research on this topic.

There were several limitations to the study. First, the study was conducted online and therefore there was no way to control the environment in which the individuals were participating. The responses could have been affected by a distracting environment. Manipulation checks and sensitivity analyses were done to check whether participants were paying attention and how deleting the participants who answered the manipulation check questions wrong impacted the findings of this study. The majority of the participants answered the questions correctly, which indicates that those participants paid attention. The proportion of variance explained by the groups slightly increased after deleting the participants who had both manipulation check questions wrong. Furthermore, the sensitivity analyses indicated an additional effect for the attribution "I would describe Mark as emotionally stable". However, this effect was not consistent with our hypothesis: Mark was rated as less emotionally stable after watching the video. This might indicate that this video intervention leads people to judge a person with complicated grief as less emotionally stable. Notably, the aforementioned main effects of the intervention were similar after deleting the above mentioned participants, which supports the robustness of these findings.

A second limitation was the high dropout rate. This might be due to technological issues. One of the participants mentioned that the timed vignette took longer than he/she expected, which could indicate problems with the online intervention. An implication is that the study was underpowered to investigate the effects of the intervention. The power analysis showed that, for the univariate analyses, a sample size of 620 participants was needed to detect an effect size of $d = .20$. Our final sample consisted of 464 participants, which means that there were less participants than required to detect this effect size. Additionally, the high dropout number poses a threat to the internal validity of this study since the attrition analysis showed significant differences between the group who did complete the study and the group who did not complete the study. For example, significantly more (psychology) students, more

people with a higher educational level and people who experienced bereavement in the past three years completed the study. This might indicate a higher motivation to complete the study among the overrepresented (sociodemographic) groups, which might bias the results of this experiment: the findings can be due to these group differences, instead of the intervention. However, the randomisation check only showed differences between the intervention and control group on one background variable (religiosity), which indicates that both groups were mainly equivalent.

The high number of students in this study can be due to the use of the "SONA"-participant pool as way of recruitment. Recruitment of participants is linked to the third limitation, namely the use of a convenience sample, which resulted in an overrepresentation of young, higher-educated females compared to the general population. Future research should aim to assess whether the current findings generalize to a more representative sample of the general population. This can be accomplished by using a random sampling procedure.

The fourth limitation is that this study investigated the short-term effects of a video intervention. The effects of short-term interventions are often transient (Waqas et al., 2020) which highlights the need to study long-term effects of an intervention.

Notwithstanding these limitations, this study presents a first attempt to investigate the effects of an anti-stigma intervention with regard to complicated grief. Public stigma was reduced after participants took part in a brief, online educational and contact-based intervention. This suggests that it would be worthwhile to devote research attention to further test and improve interventions for complicated grief-related stigma. Future studies should aim to find out how the different aspects of stigma (i.e., social distance, the attributions and the emotional reactions) can be targeted by an intervention so that stigma and the negative consequences might be reduced in the long-term.

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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

Table B1

Sociodemographic Characteristics of the Participants

Sample characteristics		Intervention group (*n* = 198)	Control group (*n* = 266)
Gender (N (%))	Male	53 (26.8)	63 (23.7)
	Female	142 (71.7)	197 (74.1)
	Non-binary	2 (1.0)	2 (0.8)
	Other	1 (0.5)	4 (1.5)
	Prefer not to say	0	0
Age in years (M (SD))		26.68 (13.2)	25.58 (11.3)
Education (N (%))	Lower education	95 (48.0)	105 (39.5)
	Higher education	103 (52.0)	161 (60.5)
Psychology student (N (%))	No	88 (44.4)	141 (53.0)
	Yes, first year bachelor	65 (32.8)	85 (32.0)
	Yes, second, or third year	29 (14.6)	30 (11.3)
	Yes, master	13 (6.6)	8 (3.0)
	Yes, postmaster	3 (1.5)	2 (0.8)
Work status (N (%))	Student	97 (49.0)	104 (39.1)
	Full-time	26 (13.1)	43 (16.2)
	Part-time	23 (11.6)	29 (10.9)
	Unemployed	3 (1.5)	4 (1.5)
	Incapacitated	0	0
	Retired	3 (1.5)	4 (1.5)
	Housewife/houseman	1 (0.5)	1 (2.3)
	Student and part-time	41(20.7)	77 (28.9)
	Student and full-time	4 (2.0)	4 (1.5)

Table B1 (continued)

Sample characteristics		Intervention group (*n* = 198)	Control group (*n* = 266)
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 (5.1)	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 (31.3)
	Proficient	139 (70.2)	166 (62.6)
Bereavement past three years (N (%))	Yes	84 (42.4)	131 (49.2)
	No	114 (57.6)	135 (50.8)

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 Attributions, Emotions, and Preferred Social Distance for the Intervention Group and Control Group

	Intervention group (n = 198)		Control group (n = 266)	
	M	*SD*	M	*SD*
Attributions				
Warm	2.89	0.79	2.95	0.83
Competent	2.56	0.69	2.61	0.75
Emotionally stable	1.53	0.64	1.64	0.66
Dependent	2.75	0.72	2.77	0.73
Sensitive **	3.24	0.71	3.38	0.71
Emotions				
Anger **	1.34	0.47	1.49	0.60
Fear	1.81	0.71	1.85	0.70
Pro-social	3.08	0.54	3.10	0.53
Preferred social distance	3.26	0.53	3.34	0.53

Note. ** Significant differences were found between the intervention group and the control group on the attribution sensitive p = .029 and the emotional reaction anger p = .004. Lower scores on social distance scale indicate a higher preferred social distance.