Using counterframing strategies to enhance anti-stigma campaigns related to mental illness

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Declarations of Interest

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Abstract

Rationale and Methods

Despite the prevalence of media-based anti-stigma campaigns, there is little empirical evidence of their effectiveness and little guidance regarding which communicative strategies can bolster their message. Using a Belgian sample ($N = 737$) recruited in March-April 2019, the current experimental study manipulated a campaign message using counterframing strategies. Hierarchical linear regression analyses were used to investigate the effectiveness of the resulting nine variants.

Results

Campaign effectiveness was most increased by stating that people with a mental illness are “not free-riders or poseurs”, or by redefining them as “go-getters” who are “certainly not abnormal or crazy”. These variants decreased desired social distance, and significantly reduced stereotype endorsement for people with a high need for cognitive closure. Whereas several campaigns decreased attitudinal stigma for people with a high need for cognitive closure, they inadvertently increased it for people with a low need for cognitive closure.

Conclusion

This study indicates that small changes in the body copy can impact a campaign’s destigmatizing potential. As such, empirical testing is essential to avoid ineffective or counter-productive anti-stigma interventions. Moreover, this study demonstrates that refuting stigmatizing statements can be a valid strategy in anti-stigma interventions, even though previous literature has argued against it.

Key Words: Belgium; mental illness; public stigma; internalized stigma; framing effects; anti-stigma campaign; need for cognitive closure

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Introduction

Link and Phelan (2001) defined public stigma as a phenomenon in which a powerful group applies a label to a less powerful group, thereby linking them to negative stereotypes. People assigned to the stigmatized group are consequently set apart, lose status and are discriminated against. For instance, the general public may be unwilling to engage with them socially (i.e., maintain social distance, Livingston et al., 2013). As such, public stigma negatively impacts the opportunities of people belonging to stigmatized groups (Sharac, McCrone, Clement, & Thornicroft, 2010). In addition to being discriminated by others, people belonging to a stigmatized group can internalize stigma, a phenomenon that has been associated with its own detrimental consequences, such as decreases in self-esteem and self-efficacy (Boyd, Otilingam, & DeForge, 2014; Livingston & Boyd, 2010).

Research confirmed the high prevalence of both public stigma and internalized stigma surrounding mental illnesses (e.g., Evans-Lacko, Brohan, Mojtabai, & Thornicroft, 2012; Reavley & Jorm, 2011). As such, governments and civil society organizations around the world have taken various initiatives to bring attention to and reduce stigma (Clement, Jarrett, Henderson, & Thornicroft, 2010; Sharac et al., 2010; Yeh & Jewell, 2015). These initiatives often employ mass media messages, such as public service announcements (PSAs) and social marketing campaigns.

Despite being commonly used, there is limited empirical evidence that PSAs and anti-stigma campaigns actually reduce stigma (Corrigan, 2012; Evans-Lacko et al., 2012;

Livingston et al., 2013; Stout et al., 2004). Interventions are commonly evaluated only by examining their reach and increases in traffic to websites mentioned in the message (Corrigan, 2012). However, neither is an adequate measure for stigma reduction. Rather, the effectiveness of campaigns should be evaluated by studying the extent to which they decrease agreement with stigmatizing stereotypes, decrease social distance, or foster continuum beliefs by reducing the perceived difference between the “mentally ill” and the “mentally healthy” (Schomerus et al., 2016). Recent work has started to investigate these issues. The burgeoning literature has demonstrated that some anti-stigma interventions fail to reduce stereotype agreement or desired social distance (Livingston et al., 2013; Ponzini & Schofield, 2019), whereas others even increased the stigma associated with seeking help for a subset of the population (Lienemann & Siegel, 2016; Lienemann, Siegel, & Crano, 2013). As such, this manuscript’s main research question is:

RQ1: Can anti-stigma campaigns reduce the stigma attached to mental illnesses? How can their effectiveness be enhanced?

Theoretical background

Counterframing Strategies

Due to the dearth of research into the effectiveness of PSAs, there is little empirically-grounded advice regarding which communication strategies are the most effective (Stout et al., 2004). This study aims to explore how *framing* can be used to enhance the effectiveness of anti-stigma messages.

Health communication research commonly conceptualizes framing as presenting logically equivalent information in different ways (e.g., a glass is “half full” or “half empty”). However, McLeod and Shah (2015, p. 16) argued that this conceptualization “neuters” the

power of framing because it is often infeasible to change the frame simply by altering how information is presented. In response, the current study will use *emphasis frames*, which simplify issues by emphasizing certain aspects while keeping others out of view. By doing so, they promote a particular issue definition (Dan, 2018; Lecheler & De Vreese, 2019; McLeod & Shah, 2015; Van Gorp, Vercruysse & Van den Bulck, 2012). For instance, an emphasis frame may cast mental illnesses as being like somatic illnesses by stressing its biomedical causes and de-emphasizing psychosocial factors.

Experimental research has demonstrated that the way in which issues are framed can influence the audience's attitudes (Lecheler & De Vreese, 2019). These effects extend to health-related topics - including dementia (e.g., Van Gorp et al., 2012), obesity (e.g., McGlynn, & McGlone, 2018) and mental illnesses (e.g., Vyncke & Van Gorp, 2018). This suggests that stigmatizing frames foster stigma, and as such, it is critical to dispel them. Feagin (2010) identified two strategies to achieve this goal: *reframing* and *deframing*.

Reframing refers to introducing a novel way to look at the issue, thereby redefining it without reference to the stigmatizing frame. For example, people with a mental illness can be redefined as travelers facing an obstacle (the illness) on their journey through life (Van Gorp et al., 2017). Stigma literature has presented redefinition as a possible way to reduce both stigma and internalized stigma, at least if this novel definition resonates with the public's pre-existing attitudes and understanding of the world (Clair et al., 2016; Thoits, 2011). However, messages perceived as unpersuasive may unintentionally increase stigma (Chong & Druckman, 2007; Vyncke & Van Gorp, 2018). This risk may be reduced by using frames that contain a cultural element, such as references to myths or archetypes (Van Gorp et al., 2012). These references to broader culture can make a complex issue more tangible. For instance, people

will likely avoid a technological product framed as a “Pandora’s box”, even if they do not have intimate knowledge about how it works. Because messages using culturally embedded frames are likely to be processed fluently, their arguments have greater odds of being accepted by the audience (Lewandowsky et al., 2012). As such, reframes reconstructed from the audience’s culture should be effective in reducing stigma:

H1: People exposed to a message using culturally embedded reframes will have significantly lower public stigma (H1a) and internalized stigma associated with mental illness (H1b), compared with people who did not see any message.

The second counterframing strategy is to *deframe* the stigmatizing frame, by negating or refuting it (Feagin, 2010). For instance, PSAs may label the idea that people with a mental illness are violent and unpredictable as a myth (Corrigan, 2016; Yeh & Jewell, 2015), or argue that “you are not to blame for the cause of your depression” (Lienemann et al., 2013). However, Lakoff (2014) warned that this strategy could reinforce the frame, just like asking people *not* to think of elephants will lead to elephant-related thoughts. Lewandowsky et al. (2012) expressed similar concerns regarding using negations to rectify misinformation, but proposed that offering a credible alternative explanation is a possible solution. Combining a reframe and a deframe may therefore be a potent strategy. To refer back to Lakoff’s (2014) example: the phrase “do not think of an elephant” can render elephants more salient, but when the text then suggests that one should think of zebras instead, one’s thoughts may drift towards zebras. Put differently, combining both counterframing strategies may counteract the expected detrimental effects associated with deframing, but as of yet it is unclear whether such a combination has any additional benefit over using reframing separately:

H2: People exposed to a message that combines a deframe and a reframe will have significantly lower public stigma (H2a) and internalized stigma (H2b) associated with mental illnesses, compared with people who did not see any message.

RQ2: Is a combination of a deframe and a reframe more effective than using the reframe by itself?

Personal history of mental illness

In addition to the limited empirical evidence of the general effectiveness of anti-stigma campaigns, there is also a knowledge gap regarding how such messages affect people belonging to stigmatized groups specifically (Stout et al., 2004). This could lead to the ethically dubious situation in which the intervention has positive effects for the general public, but negatively affects the stigmatized group (Geise & Coleman, 2016). To address this concern, a third research question was posed:

RQ3: To what extent are people with and without a personal history of mental illness differently affected by a campaign?

People with and without a personal history of mental illness may differ in how they respond to a message containing only a deframe. In the absence of a reframe to suggest an alternative perspective on the issue, the audience may use their pre-existing conceptualizations to supplement the deframe. This will likely lead to diffuse effects because people differ in how they conceptualize mental illnesses. People without personal experience tend to hold more stigmatizing attitudes (Griffiths et al., 2008; Vyncke & Van Gorp, 2018). As a result, they may complete the reasoning in a stigmatizing way (e.g., “They may not be to blame for their illness, but they still are unpredictable”). On the other hand, people who have personally experienced a mental illness can draw upon that experience to nuance the stigmatizing cultural narratives.

As such, backfire effects as hypothesized by Lakoff (2014) may occur less frequently for people with a mental illness. To reflect this reasoning, the following hypothesis was formulated:

H3: A message that contains a solitary deframe will (H3a) increase stigma for people without a personal history of mental illness, and (H3b) have no significant effect for people with a personal history of mental illness, compared with people not seeing any message.

Need for Cognitive Closure

Need for cognitive closure (NFCC) refers to “individuals’ desire for a firm answer to a question and an aversion toward ambiguity” (Kruglanski & Webster, 1996, p. 264). NFCC influences one’s cognitions and behaviors towards others (Kossowska & Van Hiel, 2003; Kruglanski, Dechesne, Orehek, & Pierro, 2009). There are several reasons to assume that people with high NFCC likely endorse stigma to a greater extent than those with low NFCC.

First, people with high NFCC prefer to reach an answer quickly, feeling discomfort with ambiguity (Kossowska & Van Hiel, 2003; Kruglanski & Webster, 1996; Roets & Van Hiel, 2011). Because stereotypes are a useful means to address ambiguity, people with high NFCC use them to form their opinions (Kossowska, Szumowska, Dragon, Jaśko, & Kruglanski, 2018; Kruglanski et al., 2009; Sun, Zuo, Wu, & Wen, 2016). Given that stereotypes regarding mental illnesses are often negative, their attitudes towards people with a mental illness will likely be more negative as a result. Second, high NFCC has been associated with derogation of the out-group (Kruglanski et al., 2009). This suggests that if people with high NFCC perceive those with a mental illness as belonging to a different group, they will likely stigmatize them. Third, people with high NFCC tend blame individuals – rather than society – for major social

problems (Chirumbolo, Areni, & Sensales, 2004). According to the attribution theory (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003), higher perceived personal responsibility for mental illnesses is associated with higher stigma.

Additionally, NFCC influences how people are affected by persuasive communication (Kruglanski & Webster, 1996) and framing (Nisbet, Hart, Myers, & Ellithorpe, 2013). This is because people with high NFCC are unwilling to adapt their prior opinions in the face of opposing information or opinions (Nisbet et al., 2013; Roets & Van Hiel, 2011). Once they have formed an opinion, they are therefore thought to become resistant to persuasion (Kruglanski et al., 2009; Nisbet et al., 2013; Webster & Kruglanski, 1994). As such, high NFCC reinforces one's current ideology (Chirumbolo et al., 2004). In other words, they should be less affected by anti-stigma messages, whereas people with low NFCC should be more open to adapting their opinion. This reasoning is reflected in the final hypothesis:

H4: Anti-stigma interventions will significantly reduce the stigma of people with low NFCC (H4a), but will not have significant effects in people with high NFCC (H4b).

Control variables

The analyses will take into account several variables that extant literature has identified as predicting mental illness stigma (Crisp et al., 2005; Griffiths et al., 2008; Vyncke & Van Gorp, 2018). Female gender, having had more education, or having a higher socio-economic background are generally associated with having less stigmatizing attitudes. Some studies found that older people stigmatize more, whereas others found younger people to be more stigmatizing. Further, people tend to exhibit less public stigma if they have had personal interactions with people with a mental illness, or have personally experienced a mental illness (Crisp et al., 2005; Griffiths et al., 2008; Vyncke & Van Gorp, 2018). On the other hand, people

exhibit higher stigma if they perceive people with a mental illness as being responsible for their illness (Corrigan et al., 2003; Vyncke & Van Gorp, 2018). Finally, depressive symptomatology has been associated with higher internalized stigma (Boyd et al., 2014). It may also influence the extent to which the campaign elicits self-referencing, which entails both recognizing that the message is relevant to oneself, and relating the message to aspects of oneself and one's life (Dunlop, Wakefield, & Kashima, 2010, p. 137).

Methodology

Stimulus

To answer the research questions and hypotheses, a between-subjects posttest-only online experiment was conducted. Participants were randomly assigned to one of nine experimental conditions, or to the control condition in which they were not exposed to a stimulus.

Using an existing campaign as the stimulus could contaminate the results, as participants may have been previously exposed. A professional communication agency was therefore contracted to design a novel campaign. They devised its headline and layout, while the research team crafted nine variants of the body copy. The body copy of the neutral poster contained only factual, non-framed information regarding the prevalence of mental illnesses: "1 in 4 Flemish people will get a mental illness at one point". This strategy was endorsed by 70% of the experts who participated in a consensus development study by Clement et al. (2010). The body copy ended with a baseline that appeared in all experimental conditions, stating "It is important to avoid prejudice. Can we count on your support?".

In other conditions, the body copy was supplemented with a maximum of two sentences. In conditions using a deframe, the body copy contained a negation of stigmatizing ideas. It

either said that people with a mental illness “are certainly not crazy or abnormal” (*Deframe 1*), or that they “are certainly not free-riders or poseurs” (*Deframe 2*). According to Corrigan (2016), refuting myths highlights the normality of people with a mental illness.

In conditions using a reframe, people with mental illness were redefined using culturally embedded frames that have been reconstructed in the Belgian context (Van Gorp et al., 2017). First, the campaign could define people with a mental illness as “normal in a different way, and different in a normal way”, to reflect the idea that they are regular people who are not defined by their illness (i.e., a normality approach; Corrigan, 2016). This reframe will be referred to as *A mosaic*. The second reframe depicts mental illness as an obstacle in one’s journey through life. To reflect this, the body copy of variants using the reframe *The journey* argued that people with a mental illness “are go-getters. After all, they have to overcome many obstacles”. This could lead to feelings of solidarity among the general public, and may elicit a sense of pride for people with a mental illness (Corrigan, 2016).

In sum, the experiment featured nine experimental stimuli: one neutral campaign, two variants containing only deframes, two variants containing only reframes, and four campaigns featuring a combination of the two counterframing strategies. Figure 1 shows one of these variants.

[[FIGURE 1 ABOUT HERE]]

Participants

Participants were recruited using the panel of a market research and polling agency, which invited them via e-mail or their mobile app. Participants were eligible if they had the Belgian nationality, lived in Flanders (i.e., the northern part of Belgium), spoke Dutch, and were over 18 years old. Recruitment took place in March and April 2019.

The questionnaire required participants to answer all questions on screen, before allowing them to continue. Questionnaires were included in the dataset only if all questions had been answered. This design allowed participants to withdraw their participation after starting the survey, and ensured that there are no missing data in the dataset. In total, 751 participants completed the questionnaire and passed the attention check. However, closer inspection of the dataset flagged additional responses. First, some participants had completed the questionnaire multiple times. Only their first entry was retained, leading to the deletion of five cases. Second, the data was checked for odd answering patterns. Participants who completed four or more batteries of questions by picking only one answering category (e.g., always “agree”) were removed from the dataset. Identical answers in the questions regarding responsibility beliefs, depressive symptoms, previous contact and recent discrimination were not illogical, so these questions sets did not count towards the criterion. This led to the deletion of nine cases, leaving a final sample size of $N = 737$. The final sample was weighted based on participants’ gender, age and socio-economic status (SES) to make it representative for the Flemish population. All reported results are based on the weighted sample.

Measures

At the beginning of the survey, participants were informed of their rights, and were informed that KU Leuven’s Social and Societal Ethics Committee had approved the study. Next, the terms “mental illnesses” and “stigma” were clarified, as a pre-test had indicated that not all participants understood them. This also ensured that all participants were exposed to the exact same definitions, regardless of whether they would see a campaign. Stigma was defined as a synonym for prejudice. The definition of mental illnesses was similar to the stimulus’ body copy: “a wide spectrum of disorders, such as anxiety disorders, depressions, and addictions”.

An adapted version of Corrigan et al.'s (2003) Familiarity with Mental Illness scale was used to control for previous contact. Using a yes-no format, the scale asks participants to indicate the whether they have clients, colleagues, friends, or family members with a mental illness, or if they have observed people with a mental illness in passing. Responses were summed to form a scale that ranged from 0 to 7 (Corrigan et al., 2003). Moreover, participants were asked whether they had personally experienced a mental illness. This variable was used as a separate, binary variable in the analyses.

Need for Cognitive Closure was measured using the Dutch version of the 15-item Need for Cognitive Closure scale (Roets & Van Hiel, 2011). A Principal Component Analysis (PCA) confirmed that all items loaded on a single factor, which explained 36.90% of the variance (Cronbach's $\alpha = .87$). The scale was dichotomized, as is common practice in research using NFCC (e.g., Chirumbolo et al., 2004; Kruglanski & Webster, 1996; Sun et al., 2016). Participants were divided in a low (average score ranging from 0 to 2.49) and a high NFCC group (2.5 to 5). This approach facilitates the interpretation of the results, and in models containing interactions with NFCC, it also markedly decreased multicollinearity ($VIF_{\max} = 10.57$), compared with using NFCC continuously ($VIF_{\max} = 45.70$).

The Patient Health Questionnaire Depression Scale (Kroenke & Spitzer, 2002) served as a measure for depression severity. Participants indicated to what extent they had experienced eight symptoms in the two weeks preceding the survey. As recommended by Kroenke and Spitzer (2002, p. 512), the question regarding suicidal thoughts was omitted because the survey was self-administered. Higher scores on this continuous scale signify more depressive symptoms. A PCA confirmed a single-factor solution, explaining 52.20% of the variance ($\alpha = .86$).

A three-item scale measuring personal responsibility beliefs, adapted from Corrigan et al. (2003), was incorporated as a control variable. A PCA confirmed these items loaded on a single factor, explaining 77.98% of the variance ($\alpha = .85$).

Participants were required to look at their assigned stimulus for a minimum of 20 seconds. To help explain possible differences in destigmatizing potency, participants rated their stimulus on a variety of measures. Immediately after exposure, they rated the message on eight dimensions, which included three adjectives to measure message credibility: accurate, authentic, and believable (Appelman & Sundar, 2016). A PCA confirmed that these three items loaded on a single factor, explaining 73.29% of the variance ($\alpha = .82$). Next, participants indicated the extent to which they related the campaign's message to themselves, by filling in a four-item self-referencing scale (Dunlop et al., 2010). A PCA revealed a single factor, which explained 68.15% of the variance ($\alpha = .84$).

All participants completed a three-item scale by Van Gorp et al. (2012), which measured the extent to which they perceive campaigns as a useful means to change attitudes towards mental illnesses. A PCA confirmed that these variables loaded on a single scale, explaining 72.38% of the variance ($\alpha = .80$).

To ensure a nuanced view on the campaign's effects on stigma, the survey included three measures of public stigma. Their order was randomized to prevent ordering effects. The first was a five-item social distance scale (Link et al., 1999). The average score was calculated, with higher scores signifying less desired social distance (i.e., less stigma). As such, it may be more apt to describe this variable as **social closeness**. A PCA confirmed a single-factor solution, explaining 63.11% of the variance ($\alpha = .85$). Second, the questionnaire contained an adapted version of the 9-item public stigma scale developed by Griffiths et al. (2008). The average

score was calculated, and higher scores indicate higher **agreement with stigmatizing stereotypes**. A PCA supported a single-factor solution, explaining 36.87% of the variance ($\alpha = .77$). Finally, a four-item measure for continuum beliefs served as the third measure of stigma (Schomerus et al., 2016). This scale gauged the extent to which participants perceive people with and without a mental illness as being similar. A PCA with Varimax rotation proposed a two-factor solution, both consisting of two items. The first factor attained sufficient reliability (Spearman-Brown coefficient = .71), but the second did not (Spearman-Brown coefficient = .54). For this reason, only the first factor was retained. It was labeled **symptom continuity**, as it consisted of items that argue that everyone feels a little like people with mental illnesses and experiences problems that are similar to the symptoms of a mental illness.

A total of 179 participants had indicated that they had personally experienced a mental illness. They were asked to complete the 10-item version of the Internalized Stigma of Mental Illness scale (ISMI-10, Boyd et al., 2014), which served as the measure for **internalized stigma**. A PCA supported a solution with one factor, explaining 41.46% of the variance ($\alpha = .83$). Further, these participants were asked to complete the Daily Indignities Scale (Link & Phelan, 2014), which gauges the extent to which one has been the subject of eight discriminatory behaviors in the three months prior to filling in the questionnaire. These two scales were also presented in a random order.

The polling agency provided participants' gender, age and socio-economic status (SES). SES was based on participants' income and highest attained degree. For the analyses, male gender and low SES served as the reference categories. Age was recoded to have '0' represent participants who were 18 years old.

Analysis procedure

Hierarchical linear regression analyses were conducted to investigate the research questions and hypotheses. The first models investigated the main effects, controlling for age, gender, SES, previous contact, personal experience, NFCC, depressive symptoms, and responsibility beliefs. The regression analysis for internalized stigma included recent discrimination as an additional predictor.

The interaction terms were entered in subsequent models. Interactions with personal experience were investigated separately from those with NFCC. In these models, multicollinearity increased due to the inclusion of multiplicative interactions. However, Brambor, Clark, and Golder (2005) argued that the problem of multicollinearity in models with interaction effects has been overstated. The constitutive terms were neither omitted nor centered, because Brambor et al. (2005) argued that these are not justified responses.

Results

Descriptive statistics

Half the sample was female ($n = 370$, 50%) and belonged to the higher social-economic status ($n = 372$, 50%). The average participant was 46.28 years old ($SD = 13.76$). About a quarter of participants ($n = 179$, 24%) had a personal experience of mental illness. Table 1 presents additional descriptive statistics and Supplementary Table A presents the correlations between the covariates.

[[TABLE 1 ABOUT HERE]]

Campaign ratings

Regarding **message credibility**, none of the campaigns had a significant main effect when comparing with the neutral variant. With regard to the **perceived usefulness of**

campaigns, there were no significant main effects when comparing with the control group or the neutral campaign. There were no significant simple main effects or interaction effects with either NFCC or personal experience.

The first regression analysis for **self-referencing** indicated that the combination of *A mosaic* and *Deframe 2* (i.e., “not free-riders or poseurs”) was perceived as significantly more self-relevant than the neutral variant (see Table 2). There were no significant simple main effects or interaction effects when including the interaction terms with personal experience. When introducing interaction terms with NFCC, however, the analyses revealed significant effects (see Table 2). Specifically, people with low NFCC perceived the campaign using a combination of *The journey and deframe 1* (i.e., “not crazy or abnormal”) as significantly less self-relevant than the neutral variant. In contrast, people with high NFCC found both the campaign containing only *Deframe 2* and the combination *The journey and deframe 1* significantly more self-relevant than the neutral campaign.

In sum, people with and without a personal history of mental illness did not differ in their appraisal of the campaign, even though some campaigns repeated offensive words (e.g., “crazy” and “abnormal”). There were, however, some differences in perceived self-relevance depending on participants’ NFCC.

[[TABLE 2 ABOUT HERE]]

Public stigma

A first linear regression analysis investigated the predictors for desired **social closeness**, $R^2 = .21$, $F(17, 719) = 11.26$, $p < .001$ (see Table 3). Both *Deframe 2* and the combination *The journey and deframe 1* significantly increased desired social closeness, meaning that people became less stigmatizing after exposure to these two variants.

When introducing the interaction terms with NFCC, there were no significant simple main effects or significant interaction effects. However, there were significant and meaningful interactions terms with personal experience, $R^2 = .22$, $F(26, 710) = 7.72$, $p < .001$. *Deframe 2* had a significant simple effect, indicating that people without a personal history of mental illness became less stigmatizing. This is contrary to H3a, which predicted that deframing would increase the stigma of this group. As predicted by H3b, deframing had no significant effect for people with a personal history of mental illness.

[[TABLE 3 ABOUT HERE]]

Table 4 summarizes the results of the hierarchical regression analyses for both stereotype agreement (left-hand side) and symptom continuity beliefs (right-hand side). This table does not display the models including the interaction terms with personal experience, as there were no significant simple main effects or significant interactions.

Regarding **stereotype agreement**, none of the experimental conditions had a significant main effect, $R^2 = .34$, $F(17, 719) = 21.36$, $p < .001$. However, several campaigns became significant predictors in the model that included the interaction terms with NFCC, $R^2 = .35$, $F(26, 710) = 14.62$, $p < .001$ (see Table 4). The campaigns using *Deframe 1*, *Deframe 2*, *A mosaic*, and the combination *The journey and deframe 1* elicited opposite effects depending on participants' NFCC: they significantly increased stereotype agreement for people with low NFCC, while significantly decreasing it for people with high NFCC.

A similar pattern occurred for **symptom continuity** (see Table 4, right-hand side). None of the stimuli elicited significant main effects, $R^2 = .06$, $F(17, 719) = 2.91$, $p < .001$. However, inclusion of the interaction terms with NFCC rendered several experimental conditions significant, $R^2 = .09$, $F(26, 710) = 2.61$, $p < .001$. *The journey* – in isolation and in combination

with *Deframe 1* – significantly decreased the symptom continuity beliefs of participants with low NFCC, which suggests that their attitudes became more stigmatizing. For people with high NFCC, three stimuli strengthened the belief that everyone has experiences similar to the symptoms of mental illnesses, suggesting a decrease in stigma: *The journey*, *The journey and deframe 1* and *A mosaic and deframe 2*.

Considering the fact that scores for symptom continuity and stereotype agreement did not correlate significantly in the full sample ($r = -0.07$, $p = 0.068$), the finding that the stimuli had opposite effects on these two variables (e.g., leading to less stereotype endorsement and more beliefs in symptom continuity) provides additional evidence that the interventions were successful in reducing stigma for people with high NFCC. These results support H1a and H2a. H4 was not supported, as the direction of the effects was the opposite of what was expected.

[[TABLE 4 ABOUT HERE]]

Internalized stigma

A final linear regression analysis investigated the predictors for internalized stigma, $R^2 = .51$, $F(17, 161) = 9.70$, $p < .001$ (see Supplementary Table B). The more discrimination that participants had experienced in the three months prior to the survey, the higher their internalized stigma, $b = 0.04$, $\beta = 0.44$, $p < .001$. Similarly, participants with more depressive symptoms had higher internalized stigma, $b = 0.04$, $\beta = 0.40$, $p < .001$. Participants with high NFCC also had higher internalized stigma than those with low NFCC, $b = 0.26$, $\beta = 0.16$, $p = .007$. Because none of the stimuli had a significant effect, H1b and H2b are rejected.

Discussion

This study investigated whether anti-stigma posters could reduce mental illness stigma, which is crucial given the limited empirical evidence regarding their effectiveness (Corrigan,

2012; Evans-Lacko et al., 2012; Livingston et al., 2013; Stout et al., 2004). In order to provide insight into the most effective communicative strategies, the experiment used several variants of a professionally-designed poster campaign. Specifically, the campaign either refuted stigmatizing ideas (*deframing*), redefined people with a mental illness in a destigmatizing way (*reframing*), or combined these two counterframing strategies. Several measures of stigma were included to ensure a thorough and nuanced image of the framing effects. Additionally, Lecheler and De Vreese (2019) argued that framing effects research should include moderators to provide deeper insight into the factors that influence frame effectiveness. As such, the moderating role of both Need for Cognitive Closure (NFCC) and a personal history with mental illness was investigated.

Two counterframing strategies were consistently effective: refuting the stigmatizing idea that people with a mental illness are free-riders or poseurs (*Deframe 2*), as well as reframing people with a mental illness as travelers while simultaneously refuting the idea that they are crazy or abnormal (*The journey and deframe 1*). These two variants decreased desired social distance for all participants. Indicating the moderating role of NFCC, these variants were seen as more personally relevant for people with high NFCC, and decreased the extent to which they endorsed stereotypes. *The journey and deframe 1* also strengthened the extent to which participants with high NFCC see the symptoms of mental illnesses as a continuum, rather than something that is inherently different from the experiences of people without a mental illness.

The moderating role of NFCC

In the control condition, participants with high NFCC agreed more with stereotypes than people with low NFCC, $t(71) = -3.06, p = .003$. This finding suggests that they generally depend on heuristic processing, as the literature suggested (Kossowska et al., 2018; Kruglanski

& Webster, 1996). The current results show that some interventions were effective in reducing the stigma of people with high NFCC. This is highly consequential, as people with high NFCC have been described as “closed-minded” individuals (Kossowska & Van Hiel, 2003; Nisbet et al., 2013; Roets & Van Hiel, 2011), who are assumed to resist persuasion as a result of their tendency to “seize” and “freeze” (Kruglanski & Webster, 1996).

The key to understanding these unexpected results is likely self-referencing, because it is the only significant difference in campaign ratings between people with high and low NFCC. In a recent theoretical paper, Kossowska et al. (2018) questioned the traditional conceptualization of “freezing” and re-conceptualized it as a tendency to filter out information perceived as *irrelevant*. In the current study, people with high NFCC rated two versions of the campaign as more *self-relevant*, applying them to their own past attitudes and behavior. As a result, they likely processed the information more elaborately, rather than discarding it. It makes sense that more elaborate processing of anti-stigma interventions would result in a more nuanced image of the stereotyped group.

Alternatively, Kossowska et al. (2018, p. 174) suggested that people with high NFCC might engage in more elaborate processing when asked to form unbiased and well-informed opinions. As the campaign explicitly asked participants for their support in avoiding prejudice, this may have spurred them to reduce their reliance on stereotypical information and to process the message more elaborately. However, given the overall similarity of the campaign ratings, it is unclear which underlying mechanism – aside from self-referencing – resulted in the call-to-action that successfully elicited elaborated processing in some variants, but not in others.

In contrast, several campaign variants inadvertently increased the stigma of people with low NFCC, who are generally open-minded and willing to adapt their views (Nisbet et al.,

2013). A low need for cognitive closure can also be thought of as a high need to *avoid closure*, which translates into enjoyment of uncertainty and reluctance to form a definite opinion (Kruglanski & Webster, 1996, p. 264; Roets & Van Hiel, 2011). Participants with low NFCC may have felt uncomfortable with the conclusive nature of the campaign message that stigmatization is wrong and unduly burdens people with a mental illness. As such, these results may be due to psychological reactance: people with low NFCC may have adhered to stigmatizing narratives more strongly as a way to maintain their ambiguity on the issue.

In practice, it is difficult to specifically target people with high NFCC, but practitioners could instead target people with a preference for conservative parties or people who value religiosity, as both these preferences have been linked with high NFCC (Chirumbolo et al., 2004; Kossowska, & Van Hiel, 2003; Kruglanski et al., 2009). Moreover, experimental results using dispositional NFCC have been found to replicate findings from experiments in which NFCC is induced (Webster & Kruglanski, 1994). Because situational NFCC can be elicited using time pressure or ambient noise (Roets & Van Hiel, 2011; Webster & Kruglanski, 1994), the results for the high NFCC group can provide some information about the campaign's effects under more realistic conditions: in real-life situations, people likely look only quickly at anti-stigma campaigns and are probably distracted by other messages and ambient noise.

The counterframing strategies' destigmatizing potential

The current results extend extant framing literature by shedding more light on the effectiveness of strategies to counter an existing frame. Lakoff (2014) warned against negating a frame, but the current results question whether this advice applies to all situations. Although deframing increased stigma for people with low NFCC, it was an effective destigmatizing strategy for people with a high NFCC. Its main effect on social closeness further stresses that

deframing (e.g., “he is *not* a free-rider or poseur”) can be a valid strategy to counter an existing frame, both in solitude and in a combination with a reframe. It is possible that Lakoff’s (2014) advice is applicable only when unexpected claims are negated. In that case, the audience may think there is some truth *because* the communicator felt the need to address it (e.g., “Why did that student pre-emptively say that he did not plagiarize his paper? Maybe he expected being accused because he is, in fact, guilty?”). However, the stimuli addressed commonly-held stigmatizing beliefs (Reavley & Jorm, 2011). As such, the audience may have found it more palpable that these issues were addressed in communication, thereby avoiding a backfire effect.

For these people with high NFCC, reframing provided a credible redefinition that decreased attitudinal stigma. Although redefinition was identified as a possible route to destigmatization (Clair et al., 2016; Thoits, 2011), this study indicates that there are limits to its use, as it increased stigma for those with low NFCC and was ineffective in reducing internalized stigma. In short, reframing can reduce stigma, but it is not effective for everyone.

The second research question asked whether a combination of reframing and deframing could improve the potency of reframing strategies. The current study cannot provide a conclusive answer to this question, as not all combinations were equally effective. Negating the idea that people with mental illnesses are “crazy” or “abnormal” (*Deframe 1*) increased the effectiveness of *The journey*, but not of *A mosaic*. On the other hand, a combination of *A mosaic* with *Deframe 2* (i.e., “they are not free-riders or poseurs”) significantly affected symptom continuity beliefs, whereas a combination of *The journey* with *deframe 2* failed to significantly affect public stigma.

The difference in effectiveness could depend on whether the deframe provides additional information beyond the reframe. Defining people with a mental illness as “go-getters”

who “have to overcome many obstacles” (*The journey*) implies that they are not poseurs or free-riders. As such, including *Deframe 2* is superfluous. However, *Deframe 1* expands on the original text by adding that people with a mental illness are also not crazy or abnormal. Similarly, if they are “normal in a different way, and different in a normal way” (*A mosaic*), it is implied that they are not “crazy or abnormal” (*Deframe 1*). However, the stigmatizing idea that they take advantage of social security remains unaddressed, which can be solved by including *Deframe 2*. In sum, there likely is little value in redundancy, and communicators should use the space they have to address issues that remain unaddressed by the reframe.

Limitations and Future Research

The study design addressed several common weaknesses in framing effects research, including a lack of a control group (Chong & Druckman, 2007), a lack of moderators (Lecheler & De Vreese, 2019) and having extensive manipulations, which make it difficult to identify which element of the frame engendered the effects (McLeod & Shah, 2015). Additionally, by including two variants of each counterframing strategy, this study was able to provide a more nuanced image of the effects of each, and was able to demonstrate that different combinations of the strategies elicit different effects.

These strengths notwithstanding, the study’s cross-sectional nature renders it unable to provide insight into the duration of the intervention’s effects, and into the influence of repeated exposure to the stimulus’ message. Given that the effects of anti-stigma interventions have been found to diminish over time (e.g., Ponzini & Schofield, 2019), longitudinal designs could help answer these important questions (Lecheler & De Vreese, 2019).

To ensure internal validity, the stimulus did not include a graphic. A visual can draw the audience’s focus away from the textual manipulation, and can affect the verbal frame’s

effect depending on the perceived compatibility between visual and text (Dan, 2018). Given the importance of visuals, however, future studies should investigate the effects of combinations of verbal and visual framing.

Finally, the questionnaire and stimulus defined mental illnesses in broad terms, using three examples to better illustrate the concept. Because stigma varies by mental illness (Crisp et al., 2005; Reavley & Jorm, 2011), an anti-stigma intervention that tackles a specific mental illness may have been more effective as it is better able to address the illness-specific stigma (Reavley & Jorm, 2011). Additionally, the broad definition may have reduced participants' situational NFCC, due to fears of their judgement being invalid (Kruglanski & Webster, 1996). Indeed, some participants commented that they would answer differently, depending on the mental illness in question. With this in mind, future research should investigate how the results are affected when the campaign focuses on a specific mental illness rather than the general category.

Conclusion

This study demonstrated the necessity of testing anti-stigma campaign messages, because even small changes in the body copy can impact their effectiveness. The most effective variants of the campaign refuted the idea that people with a mental illness are free-riders or poseurs, or redefined them as go-getters while simultaneously refuting the idea that they are abnormal or crazy. This suggests that refuting a stigmatizing idea can be an effective strategy, both when used by itself and when it is combined with a novel, destigmatizing perspective on mental illnesses. However, this was the case only for participants with a high need for cognitive closure.

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Figure Captions

Headline:

Stigma, easy to attach [to people], but difficult to live with

Body copy:

Anxiety disorder, depression, addiction, ... 1 in 4 Flemish people will get a mental illness at one point. These people are certainly not crazy or abnormal. In fact, they are go-getters. After all, they have to overcome many obstacles.

Baseline:

It is important to avoid prejudice. Can we count on your support?

Figure 1 – Annotated and translated stimulus (*The journey combined with Deframe 1*)

Note: This figure should not be reproduced in color in print. It should be used as a 1.5 column fitting image

Tables

Table 1 – Descriptive statistics

	<i>N</i>	<i>M (SD)</i>	Range
<i>Dependent variables</i>			
Social distance	737	3.02 (0.52)	1.00 – 4.00
Stereotype agreement	737	2.29 (0.55)	1.00 – 4.44
Symptom continuity	737	0.00 (1.00)	-4.32 – 2.03
Internalized stigma	179	1.98 (0.53)	1.00 – 3.30
<i>Control variables</i>			
Previous contact	737	2.55 (1.62)	0.00 – 7.00
Depressive symptoms	737	4.79 (4.71)	0.00 – 24.00
Need for Cognitive Closure	737	2.92 (0.66)	0.73 – 4.73
Responsibility beliefs	737	0.00 (1.00)	-1.20 – 3.80
Discrimination experience	179	6.47 (6.28)	0.00 – 23.00
<i>Campaign ratings</i>			
Campaign usefulness	737	-0.01 (1.00)	-4.41 – 1.32
Message credibility	664	-0.01 (1.01)	-4.36 – 1.81
Self-referencing	664	3.88 (1.39)	1.00 – 7.00

Table 2 – Hierarchical regression on self-referencing, compared with the neutral campaign (N =664)

	<i>b</i>	β	<i>p</i>	<i>b</i>	β	<i>p</i>
Constant	2.72		***	3.19		***
Gender	0.14	0.05		0.15	0.05	
Age	0.00	0.03		0.00	0.03	
SES	-0.15	-0.05		-0.16	-0.06	
Previous contact	0.13	0.15	***	0.13	0.15	***
Personal experience	0.57	0.17	***	0.60	0.18	***
NFCC (Low vs High)	0.35	0.11	**	-0.25	-0.08	
Depressive symptoms	0.06	0.19	***	0.05	0.18	***
Responsibility beliefs	-0.12	-0.08	*	-0.11	-0.08	*
<i>Counterframing strategies</i>						
Deframe 1	0.38	0.08		-0.20	-0.04	
Deframe 2	0.19	0.04		-0.51	-0.12	
The journey	-0.02	-0.01		-0.32	-0.07	
+ Deframe 1	0.24	0.05		-1.15	-0.26	*
+ Deframe 2	0.03	0.01		0.00	0.00	
A mosaic	-0.18	-0.04		-0.65	-0.15	
+ Deframe 1	-0.29	-0.07		-0.65	-0.15	
+ Deframe 2	0.43	0.10	*	-0.04	-0.01	
<i>Interactions with NFCC</i>						
Deframe 1				0.76	0.15	
Deframe 2				0.96	0.18	*
The journey				0.40	0.08	
+ Deframe 1				1.69	0.35	**
+ Deframe 2				0.00	0.00	
A mosaic				0.60	0.12	
+ Deframe 1				0.45	0.09	
+ Deframe 2				0.60	0.12	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3 – Hierarchical regression analysis for social closeness (N = 737)

	<i>b</i>	β	<i>p</i>	<i>b</i>	β	<i>p</i>
Constant	3.05		***	3.04		***
Gender	-0.03	-0.03		-0.04	-0.04	
Age	-0.01	-0.16	***	-0.01	-0.16	***
SES	-0.03	-0.03		-0.03	-0.03	
Previous contact	0.07	0.21	***	0.07	0.21	***
Personal experience	0.15	0.12	**	0.22	0.18	
NFCC (Low vs High)	-0.17	-0.14	***	-0.16	-0.13	***
Depressive symptoms	0.00	0.02		0.00	0.01	
Responsibility beliefs	-0.13	-0.26	***	-0.13	-0.25	***
<i>Counterframing strategies</i>						
Neutral	0.09	0.05		0.14	0.08	
Deframe 1	0.11	0.06		0.12	0.07	
Deframe 2	0.17	0.10	*	0.18	0.11	*
The journey	0.06	0.04		0.04	0.03	
+ Deframe 1	0.19	0.11	*	0.17	0.10	
+ Deframe 2	0.05	0.03		0.08	0.05	
A mosaic	0.07	0.04		0.08	0.05	
+ Deframe 1	0.01	0.01		0.04	0.03	
+ Deframe 2	0.03	0.02		0.09	0.05	
<i>Interactions with personal experience</i>						
Neutral				-0.20	-0.06	
Deframe 1				-0.02	-0.01	
Deframe 2				-0.04	-0.01	
The journey				0.10	0.03	
+ Deframe 1				0.11	0.03	
+ Deframe 2				-0.12	-0.04	
A mosaic				-0.04	-0.01	
+ Deframe 1				-0.13	-0.04	
+ Deframe 2				-0.38	-0.09	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4 – Hierarchical regression analyses for stereotype agreement and symptom continuity ($N = 737$)

	<i>Stereotype Agreement</i>						<i>Symptom Continuity</i>					
	<i>b</i>	β	<i>p</i>	<i>b</i>	β	<i>p</i>	<i>b</i>	β	<i>p</i>	<i>b</i>	β	<i>p</i>
Constant	2.21		***	1.99		***	-0.21			0.12		
Gender	-0.05	-0.05		-0.06	-0.06		-0.16	-0.08	*	-0.13	-0.07	
Age	0.00	0.09	**	0.00	0.09	**	0.00	-0.05		0.00	-0.05	
SES	-0.07	-0.07	*	-0.07	-0.07	*	-0.02	-0.01		-0.02	-0.01	
Previous contact	-0.05	-0.14	***	-0.05	-0.14	***	0.11	0.18	***	0.11	0.18	***
Personal experience	-0.25	-0.20	***	-0.26	-0.20	***	0.17	0.07		0.18	0.08	
NFCC (Low vs High)	0.21	0.17	***	0.51	0.40	***	0.13	0.06		-0.37	-0.16	
Depressive symptoms	0.01	0.06		0.01	0.07		0.00	-0.02		0.00	-0.02	
Responsibility beliefs	0.25	0.45	***	0.25	0.45	***	0.01	0.01		0.02	0.02	
<i>Counterframing strategies</i>												
Neutral	0.06	0.03		0.12	0.06		0.01	0.00		-0.25	-0.07	
Deframe 1	0.06	0.03		0.35	0.19	*	0.09	0.03		-0.28	-0.08	
Deframe 2	0.03	0.02		0.31	0.17	*	-0.10	-0.03		-0.27	-0.08	
The journey	-0.03	-0.01		0.18	0.10		0.03	0.01		-0.75	-0.23	*
+ Deframe 1	0.05	0.02		0.42	0.23	*	-0.09	-0.03		-0.99	-0.30	**
+ Deframe 2	0.03	0.02		0.23	0.13		0.14	0.04		-0.02	-0.01	
A mosaic	0.03	0.01		0.34	0.19	*	-0.18	-0.05		-0.46	-0.14	
+ Deframe 1	0.09	0.05		0.27	0.15		-0.08	-0.02		-0.38	-0.11	
+ Deframe 2	0.07	0.04		0.27	0.15		0.15	0.05		-0.59	-0.18	
<i>Interactions with NFCC</i>												
Neutral				-0.11	-0.05					0.39	0.10	
Deframe 1				-0.42	-0.19	*				0.54	0.14	
Deframe 2				-0.41	-0.19	*				0.24	0.06	
The journey				-0.30	-0.15					1.01	0.28	*
+ Deframe 1				-0.49	-0.25	**				1.17	0.33	**
+ Deframe 2				-0.29	-0.14					0.26	0.07	
A mosaic				-0.45	-0.21	**				0.41	0.11	
+ Deframe 1				-0.27	-0.13					0.44	0.12	
+ Deframe 2				-0.29	-0.14					1.03	0.28	**

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Supplementary Table A – Correlations between the control variables ($N = 737$)

	1.	2.	3.	4.	5.	6.	7.
1. Gender							
2. Age	.01						
3. SES	-.05	-.15 ***					
4. Previous contact	.10 **	-.15 ***	.02				
5. Personal experience	.14 ***	.10 **	-.15 ***	.24 ***			
6. NFCC (Low vs High)	.07 *	.03	-.05	.00	.15 ***		
7. Depressive symptoms	.13 ***	-.09 *	-.12 ***	.22 ***	.48 ***	.17 ***	
8. Responsibility beliefs	-.18 ***	-.13 ***	.08 *	-.12 ***	-.17 ***	-.01	-.15 ***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

Supplementary Table B – Linear regression analysis for internalized stigma ($N = 179$)

	<i>b</i>	β	<i>p</i>
Constant	1.23		***
Gender	0.01	0.01	
Age	0.00	0.04	
SES	-0.02	-0.02	
Previous contact	-0.03	-0.09	
Recent discrimination	0.04	0.44	***
NFCC (Low vs High)	0.26	0.16	**
Depressive symptoms	0.04	0.40	***
Responsibility beliefs	0.02	0.04	
<i>Main effects</i>			
Neutral	-0.02	-0.01	
Deframe 1	0.18	0.09	
Deframe 2	0.10	0.06	
The journey	-0.07	-0.04	
+ Deframe 1	-0.13	-0.07	
+ Deframe 2	0.00	0.00	
A mosaic	-0.13	-0.07	
+ Deframe 1	0.08	0.05	
+ Deframe 2	0.06	0.03	

Note. * $p < .05$; ** $p < .01$; *** $p < .001$