When *They* Cry: Tears Facilitate Responses toward Members of Socially Disadvantaged Groups

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Author Contribution

Magdalena Bobowik designed the research, conceptualized the paper, collected and analyzed the data, and wrote the article. Patrycja Slawuta designed the research and provided feedback and edited the manuscript. Marta Doroszuk assisted in the literature review, provided feedback on the design of Study 3, collaborated in preparing the tables and study materials for the OSF project, and provided feedback and edited the manuscript. Nekane Basabe was responsible for the fieldwork, collaborated in the research design, and read and provided feedback on the final version of the manuscript.

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Abstract

Emotional tears are vehicles for bonding between individuals, even with those belonging to different social categories. Yet, little is known about the reactions they provoke towards members of underprivileged groups such as immigrants or the explanatory mechanisms of their effects. Across three experiments (with 548 adults) using standardized images of emotional displays, we tested the effects of tears on cognitive inferences (of warmth and competence) and affective responses (such as compassion or discomfort), and indirectly on self-reported prosocial behavioral tendencies towards an immigrant male. We observed that, compared to non-tearful (i.e., both neutral and sad) expressions, a tearful immigrant is perceived as warmer but not as less competent (except for Study 3). Moreover, observers felt more compassion (but not discomfort or trust) in response to the tears of an immigrant, compared to his non-tearful displays. In Study 3, we found similar effects of tears on other self-transcendent emotions such as feeling moved or tenderness. Observers were also more prone to approach a tearful immigrant than a non-tearful one, as well as more willing to donate money, but not volunteer, to provide him assistance. Finally, inferred warmth and self-transcendent emotions explained the effects of tears on approach and donation intentions. This study highlights the need for the study of emotion expression in the context of interethnic and more broadly intergroup relations and the effects of emotional tears beyond the willingness to provide immediate succor. We also discuss implications that tears have for promoting different types of solidarity with members of underprivileged groups such as immigrants.

Keywords: emotional tears, cognitive inferences, emotion expression, prosocial intentions, socially disadvantaged groups, immigrants

When *They* Cry: Tears Facilitate Responses toward Members of Socially Disadvantaged Groups

Assessing others' emotional states is crucial for interacting with people (e.g., Harker & Keltner, 2001). Among diverse facial cues, tears can influence the way others perceive and respond to a person they interact with. Besides serving as a tool for emotional recovery after a distressing episode (intrapersonal function), tears also elicit reactions in the observer (interpersonal effects) (e.g., Cornelius & Labott, 2001; Gračanin, Bylsma, & Vingerhoets, 2018; Hendriks & Vingerhoets, 2006; Vingerhoets & Bylsma, 2016). Communicating one's suffering, emotional tears are expected to evoke empathy and willingness to comfort or offer help (e.g., Simons et al., 2013; Vingerhoets et al., 2000).

Tears can be thus an important bonding vehicle and tool for promoting empathy and solidarity with individuals belonging to different social categories. This is particularly important because people may be in general less motivated to care about and thus help outgroup members than ingroup members (see Cikara et al., 2011). In this context, comprehending the effects of nonverbal communication among members of historically disadvantaged groups may be particularly crucial for combating discrimination and prejudice (Yabar & Hess, 2007). Among these groups, migrants are an important group of concern globally. According to the data from the Migration Data Portal (United Nations, Department of Economic and Social Affairs), there are currently 280.6 million migrants in the world. Yet, despite growing migration trends and the fact that we all live in ethnoculturally diverse environments (Vertovec, 2007), migrants arriving at the borders of Western countries are usually portrayed as experiencing negative emotions, ranging from despair and sadness to anger and fear. Tearful faces that convey sadness are also particularly frequent in mass media portraits of newcomers. Entering terms such as "crying migrants" in any Internet search engine provides endless images of migrants or asylum seekers shedding tears, including

children and adults, females and males, from different parts of the world. However, research on the effects of tears has not taken into account group categorization processes and mostly focused on how members of socially privileged groups perceive others who have a similar social standing in society (with an exception of research on tears which considered the gender dimension). Yet, little is known about people's reactions to emotional tears shed by unfamiliar others: members of other groups (but see Warner & Shields, 2007), including the socially disadvantaged groups, such as immigrants.

This is unfortunate because socially disadvantaged groups are those who are in particular need of social assistance from mainstream society and its political institutions. In parallel, helpers and recipients of aid differ in their social status and thus people may respond to others in need with different motivations in mind (Nadler, 2009; Nadler & Chernyak-Hai, 2014), including maintaining their superior social standing. In this context, it is important to go beyond examining the mere willingness to offer emotional support such as willingness to comfort a person (e.g., Gračanin, Krahmer et al., 2018), or acknowledgment that a person needs support and comfort (Vingerhoets et al., 2016), in response to others' suffering expressed through tears. These responses might provide immediate relief in suffering (i.e., while keeping the receiver of comfort in a situation of disempowerment) but do not address other types of needs requiring more concrete actions.

To address this gap, apart from measuring the impact on self-reported approach/avoidance tendencies, we also tested whether the effects of tears apply to more instrumental forms of support such as intentions to help (donate money or volunteer). Ethnic minorities, including migrants and asylum seekers, face difficulties in getting access to housing (Auspurg et al., 2019; Flage, 2018), employment (Zschirnt & Ruedin, 2016), education, health, and services, as well as are exposed to discriminatory treatment by the police and are victims of hate crime (European Union Agency for Fundamental Rights,

2017). It is thus of utmost importance to understand what motivates willingness to provide social assistance to individuals who suffer social disadvantage such as immigrants.

Following the Emotions as Social Information (EASI) Model (see Van Kleef, 2009), which suggests that emotional expressions affect observers' behavior by stimulating inferential processes and/or affective reactions in them, the goal of the present research was threefold. We examined, across three experimental studies, the observer's 1) cognitive judgments (inferences about warmth and competence), 2) self-reported affective responses (emotions), and 3) self-reported behavioral intentions (approach and avoidance tendencies as well as helping intentions) to images of a tearful immigrant (also in comparison to a non-migrant target in one of the three studies). We were particularly interested in affective and cognitive processes as explanatory mechanisms in the link between tears and both intentions to offer emotional support (approach vs. avoidance tendencies) and instrumental help (donate money or volunteer). We extend existing research by additionally verifying if these effects occur not only through the inferences about the crier's warmth and competence but also via the activation of positive other-focused (e.g., compassion) or negative self-focused emotions (e.g., discomfort). We also explore the effects of tears on a broader array of self-reported affective reactions (i.e., also trust or anger).

We add external validity to previous research on interpersonal effects of tears (e.g., Gračanin, Krahmer et al., 2018; Riem et al., 2017; van de Ven et al., 2017; Vingerhoets et al., 2016; Zickfeld et al., 2018; Zickfeld & Schubert, 2018) by introducing new methodological procedures. Firstly, most prior research compares images of tearful individuals with the same displays with tears digitally removed (but see, for example, Balsters et al., 2013 where tears were digitally added to sad faces). Yet, a facial expression when crying might involve more than only shedding tears, and thus it is not completely clear what emotional expressions are compared against each other once tears are removed. In our research, we digitally add visible

tears to standardized and validated displays of sadness, so that we examine the *subtractive effect* of tears as compared to sadness. Along with the expression of sadness with digitally added tears and without them, we additionally include a *neutral baseline condition*, which allows for disentangling the positive effects of tears from the negative effects of sadness (but see Balsters et al., 2013; Reed et al., 2019).

We also compare the effects of tears to that of another positive display (*happiness*), to verify to what extent the impact of tears can be accounted for by communicating generic affiliative intentions or due to expressed suffering. In addition, the use of standardized emotional display datasets ensures that the effects of diverse confounding variables such as a facial expression or other individual characteristics (hairstyle, makeup, etc.) are taken out. Finally, we use Integrative Data Analysis (Curran & Hussong, 2009) to test the homogeneity of the effects of tears across targets with different ethnic backgrounds.

Finally, our research sheds light on the existing debate on the dampened empathy and prosocial behavior in response to suffering expressed by outgroups and possible empathy-inducing interventions aimed at improving intergroup relations (Batson & Ahmad, 2009; Cikara et al., 2011). Although people are less likely to feel concerned about a person in need who belongs to a different social category, response to their suffering may depend on the way it is expressed. When accompanied by emotional tears, a universally human social cue (Vingerhoets, 2013), outgroup suffering may enhance equally strong prosocial responses as suffering experienced by the ingroup.

Tears and Observer's Cognitive Inferences

Emotional displays, as a source of social information, may affect others' impressions of our characteristics (e.g., Van Kleef, 2009). Shedding tears is expected to convey in particular emotionality and warmth, defined by such features as being friendly, reliable, or kind, and thus revealing good intentions toward others (Fiske et al., 2002). Accordingly, prior

research has shown that tearful individuals are evaluated as more emotional (Hendriks et al., 2008; Hendriks & Vingerhoets, 2006; Labott et al., 1991; Reed et al., 2015), capable of expressing emotions and feeling empathy (Küster, 2018), and less aggressive (Hendriks & Vingerhoets, 2006), relative to non-tearful ones. Recent studies also revealed that emotional tears increase an observer's inferences of psychological warmth (van de Ven et al., 2017; Zickfeld & Schubert, 2018), although some failed to find similar effects (Küster, 2018). In contrast, some earlier empirical evidence suggests that people attribute fewer positive characteristics to criers (e.g., being a friendly or good person) and view them as less pleasant than non-criers (Hendriks et al., 2008; Hendriks & Vingerhoets, 2006; Labott et al., 1991), which may reflect the ambiguity associated with tears.

The relationship between tears and perceptions of competence (i.e., capacity, intelligence, skills) has been less studied, however. Competence reflects the ability and power to carry out one's intentions (Fiske et al., 2002), and research has proved that crying individuals are perceived as less competent because of the sadness they express (van de Ven et al., 2017). In consequence, people may be motivated to down-regulate crying to avoid negative appraisals of their competence (Simons et al., 2013). Still, other investigation failed to find the effects of tears on competence (Zickfeld & Schubert, 2018; Zickfeld et al., 2018; Study 2), and more research with different methodological procedures is necessary to understand better the link between emotional tears and perceptions of competence, especially concerning less socially valued (and usually perceived as less warm and competent) groups (Lee & Fiske, 2006). Together, in line with the theorizing and most of the prior research, we expected that tears (as compared to neutral and sad expressions) would increase perceptions of warmth but decrease perceptions of competence of a member of a disadvantaged group (H1).

Tears and Observer's Affective Reactions

Compared to non-tearful expressions, tearful faces are perceived to express more sadness (Hendriks & Vingerhoets, 2006; Küster, 2018; Labott et al., 1991; Provine et al., 2009) and shame, less happiness (Küster, 2018). In addition, people who shed tears are more likely to be viewed as feeling moved (Gračanin et al., 2017). Beyond expressing emotions and affecting the cognitions of the observer, tears are also expected to elicit different affective responses in the observer. As they communicate other's suffering, tears may activate two different types of affective reactions: either personal distress (i.e., discomfort) or empathy (i.e., compassion) (Batson et al., 1983), depending on the observer's motivations. Nevertheless, while research has examined quite broadly people's cognitive inferences about criers, still little is known about specific emotional reactions that tears evoke in the observer.

A couple of studies did examine affective reactions to tears. Concerning *negative affective reactions*, some scholars have suggested that people may react to other's suffering with personal distress or discomfort (Batson et al., 1983) and that crying as well can evoke in observers feelings of discomfort or even anger, especially if perceived as inappropriate (Frijda, 1997; Kottler, 1996). Empirical research has corroborated that emotional tears provoke distress in observers, together with other negative emotions, such as sadness (Hendriks et al., 2008; Hendriks & Vingerhoets, 2006; Küster, 2018). Yet, this earlier research captured distress with a wide array of emotional states, including anger and (low) happiness, and more research is needed to disentangle discomfort from other affective reactions to tears.

Even less is known about the effects of tears on *positive affective responses* that can be expected to facilitate prosocial behavior, such as offering support and help. One class of reactions that emotional tears may motivate are self-transcendent positive emotions (Stellar et al., 2017), and in particular other-suffering oriented ones (Haidt, 2003), such as compassion and related emotions of pity, but also love and tenderness. These emotions orientate the *self*

toward the world and promote connection with others (e.g., Yaden et al., 2017). Hence, it is logical to expect that these other-oriented affective reactions will be set off in response to emotional tears.

We propose that especially compassion and related emotions, such as feeling moved, are key affective mechanisms in activating prosocial responses towards crying individuals. Compassion, understood as attention and intention towards alleviating interpersonal distress or feeling of being moved by another's suffering (Haidt, 2003), is a determinant of prosocial behavior (Goetz et al., 2010). Feeling moved or *kama muta* (moved by love towards others) (Fiske et al., 2017; Seibt et al., 2017), which involves response to the intensification of a relationship with others (e.g., Seibt et al., 2017), is another possible emotional response to tears. In line with this, studies have shown that people across different cultural contexts tend to shed emotional tears when feeling *kama muta* (Gračanin et al., 2017; Seibt et al., 2017), and tears are attributed not only to sadness but also to feeling moved (Zickfeld & Schubert, 2018).

Together, we expected that emotional tears among members of underprivileged groups would activate positive self-transcendent emotions of compassion (and related emotions of pity, tenderness or feeling moved) (H2) but also the negative emotion of discomfort (H3). We also - in an exploratory manner - examined the effects of tears on other positive (trust) and negative (anger, rejection) affective reactions in the observers.

Tears and Behavioral Responses

Tears are argued to be one of the strongest signals that one's face can reveal (Cornelius & Labott, 2001) and communicate the need for attention or succor (e.g., Fridlund, 1992). Hence, tears are assumed to encourage prosocial action tendencies towards the crier, such as willingness to approach (Frijda, 1997) and to provide support and help (Kottler & Montgomery, 2001). In line with this rationale, recent research has confirmed that tearful

individuals indeed evoke intentions to approach, provide comfort, and offer help (Balsters et al., 2013; Gračanin, Krahmer et al., 2018; Hendriks & Vingerhoets, 2006; Hendriks et al., 2008; Küster, 2018; Riem et al., 2017; van de Ven et al., 2017; Vingerhoets & Bylsma, 2016; Vingerhoets et al., 2016; Zickfeld & Schubert, 2018). Yet, prosocial responses in previous studies were usually captured in terms of situation-specific and immediate disposition to comfort and help, and, additionally, one study examined the impact of tears on prosocial tendencies in an economic game (Reed et al., 2019), and no previous research has examined the effects of tears on prosocial intentions to donate money and volunteer to help a member of a socially less privileged group. We thus predicted that in response to tears observers would show more willingness to approach (but not avoid), as well as donate and volunteer (H4).

A question that remains unanswered is *why* tears motivate people to respond in a prosocial manner. In line with the EASI model (Van Kleef, 2009), we expected that both cognitive and emotional reactions to tears would further translate into prosocial behavioral intentions. First, we argue that, in response to emotional states expressed through tears by members of a socially disadvantaged group, observers' cognitive judgments of (higher) warmth and (lower) competence about others will translate into more willingness to approach and assist the person in need. In line with this idea, research has revealed that tears enhance prosociality or willingness to interact (e.g., work with) through observers' perceptions of crier's friendliness, trustworthiness, or attribution of warmth (Reed et al., 2019; van de Ven et al., 2017; Vingerhoets et al., 2016) but also via helplessness (i.e., attribution of powerlessness and vulnerability) and decreased competence (van de Ven et al., 2017; Vingerhoets et al., 2016). Still, more research is needed to comprehend the effects of tears on other types of prosocial responses such as helping intentions to donate money or engage in volunteering via cognitive judgments of warmth and competence. We thus tested a hypothesis that increased

perceived warmth and decreased perceived competence would mediate the effect of tears shed by a member of a disadvantaged group (an immigrant) on self-reported prosocial behavioral intentions, including both willingness to approach and comfort but also to provide more instrumental help (H5).

Following the same logic, we expected that self-transcendent positive emotions (compassion), as well as self-focused negative emotions (discomfort), would explain the effects of tears on prosocial responses. It is argued that people can be motivated to help others because they empathize with them and/or want to reduce personal discomfort caused by other's suffering (Batson et al., 1983). Thus, on the one hand, self-transcendent positive emotions should be involved in promoting prosocial responses because they are involved in the development and maintenance of social relationships with others and regulate prosocial behavior such as group coordination, caretaking, and cooperation (Stellar et al., 2017; Van de Vyver & Abrahams, 2015). On the other hand, a similar process could occur through discomfort and egoistic motivation to reduce personal distress (Batson et al., 1983). In sum, we expected increased affective responses (both compassion and discomfort) to explain the effects of tears on emotional support (willingness to approach and offer comfort) but also intentions to offer instrumental support (H6).

Tears and Members of Socially Disadvantaged Groups

Finally, little is known about the effects of tears on the perception of warmth and competence when it comes to members of socially disadvantaged group categories, such as immigrants. Some scholars propose that contextual information about an outgroup member may nullify the role of factors like group membership in driving cognitive inferences about others (Ambady & Rosenthal, 1992; Senft et al., 2016), thereby reducing the influence of stereotypes in impression formation. In general terms, Lee and Fiske (2006) found that, although most immigrant groups receive ambivalent stereotypes, less familiar immigrant

groups are perceived as low on both warmth and competence dimensions. These "low-low groups" also receive negative emotional reactions both in terms of disliking and disrespect (Fiske et al., 2002; Harris & Fiske, 2006). Thus, a question is whether tears, as a universal social signal, may remove the influence of stereotypes on the perceptions of a member of a socially disadvantaged group. To date, no studies analyzed the effects of tears on perceptions of members of such groups as compared to privileged groups. We thus tested also - in an exploratory way - if the effects of tears would be equal in strength for members of one's group as compared to an underprivileged outgroup.

Overview of the Present Research

Research reported here aims to demonstrate through three experimental studies that tears are an important cue and therefore shape self-reported cognitive judgments, affective responses, and behavioral intentions towards members of socially disadvantaged groups, such as immigrants. In Study 1, we examined the effects of tears (compared to non-tearful neutral and sad expressions) on responses towards a Romanian male immigrant among Spanish participants. Study 2 checked how Spanish participants react towards a tearful representative or a more culturally distant group, namely, Moroccans. Moroccans are a group with relatively lower social status in Spain: they are, for instance, evaluated lower on warmth and competence than Romanians (López-Rodríguez et al., 2014). Effects of tears were compared to a neutral and sad, but also to a happy facial display. In Study 3, we used Middle Eastern migrants as a target group because the images of tearful refugees from Syria are common in mass media, and we additionally tested the effect of group membership and measured more specific prosocial intentions (i.e., donating and volunteering). Datasets from all three studies are available at <https://osf.io/gphrb/>. All studies received research ethics committee approval.

Study 1

Method

Participants and procedure. Ninety-seven native-born Spanish undergraduate students (all Caucasian; 85% female; $M_{age} = 20.86$, $SD = 3.33$) filled in a web-based questionnaire in the classroom (three non-native students were excluded from the analyses).¹ Participants were randomly assigned to three conditions in which they were exposed to a photograph of a Caucasian male presented as Andrei from Romania with either a neutral ($n = 37$) or sad ($n = 31$) or crying ($n = 29$) expression (see SOM, Section G, Figure I). Both in Study 1 and 2, we aimed for a minimum of 30 participants per condition (following a convention). As emotional stimuli, we applied images of the same individual extracted from a standardized Karolinska Directed Emotional Faces dataset (Lundqvist, et al., 1998). We obtained the stimulus for the third condition by digitally adding tears to the photograph (8.32" X 6.14" in all studies) with an expression of sadness.² Across three experiments, participants were informed that the study examined the perception of human faces and that their participation was voluntary and anonymous. Participants observed the stimulus and when ready filled in the questionnaire. Participants indicated their demographics and were probed for suspicion (none revealed knowledge about the purpose of the experiment). Finally, they were debriefed and thanked for their participation in the study.³

¹ We used one-way ANOVA to test for the effects of gender on our main dependent variables. Due to the small sample size in the male group (only reached 35 participants in the total sample), we merged the data from Study 1 and 2 to examine whether gender affected self-reported cognitive judgments, affective responses, or behavioral intentions to an immigrant crier. We did not find significant gender effects, except for competence, $t(243) = 2.30$, $p = .022$, with male participants perceiving the male immigrant generally as more competent compared to female participants. However, interaction between condition and gender was not significant, $F(5, 202) = 2.40$, $p = .094$. No other gender effect was detected.

² Information about pretests carried out to examine the quality of digital manipulation of tears in Study 1 is presented in SOM, Section H.

³ For exploratory purposes, we measured attitudes towards immigrants (feelings thermometer, prejudice, and empathic concern towards Romanian and Moroccan immigrants, respectively, in Studies 1 and 2; perceived threat, dehumanization, and willingness to engage in intergroup interaction with Moroccans in Study 2; and willingness to donate money to the UNHCR, the UN Refugee Agency in Study 3), but no significant effects of manipulations were detected. We also measured ingroup identification (in Study 1).

Measures. All measures were placed on a scale from 1 (*not at all*) to 7 (*a lot*) unless otherwise indicated. As a manipulation check, we measured the attribution of emotions to both facial displays. Participants rated to what extent the face on the photograph expressed neutral emotional state, sadness, or was shedding tears. Then, participants evaluated the extent to which they considered the immigrant "warm" and "competent" (with a single item per each). We assessed affective responses of compassion ("sadness" and "compassion", $r = .78$), discomfort ("discomfort" and "tension", $r = .39$), rejection ("aversion", one item), anger (a single item), and trust ("trust" and "liking", $r = .53$). Approach tendencies were captured with two items ("I would like to approach him and establish contact with him" and "I want to be close, to talk and to listen to him", $r = .84$). Avoidance tendencies were also covered with two statements ("I feel like I should protect myself from him" and "I'd rather have nothing to do with him", $r = .37$).

Results

Simple means, standard deviations, and ANOVA statistics are presented in Table 1. Bivariate correlations are shown in Supplementary Online Material (SOM, Section B, Table II). Across three experiments, we tested our predictions with planned contrasts between the experimental condition (i.e., emotional tears) and each of the remaining conditions.

Manipulation checks. ANOVAs showed that the immigrant's facial display with tears was perceived as less neutral as compared with the neutral but not sadness display whereas perceived sadness was higher in the tearful compared to both the neutral and the sadness conditions (all pairwise comparisons and effect sizes are reported in SOM, Table I). In the tearful condition, participants also agreed more that the stimulus was crying more than in both non-tearful (i.e., neutral and sadness) conditions. Based on these results, we considered our digital manipulation of tears successful.

Self-reported cognitive inferences. Tears generated more perceptions of warmth, but not competence, compared to each of the non-tearful conditions (suggesting an additive effect of tears over sadness on warmth), lending partial support to our prediction.

Self-reported affective responses. We also found a significant effect of tears on compassion, but not on discomfort or rejection. As expected, observers felt more compassion in response to the tearful than neutral display, but not compared to the sad expression. We did not detect significant effects of the manipulation on trust or anger.

Self-reported behavioral tendencies. Finally, participants were more prone to approach, but not to avoid, the tearful Romanian immigrant compared to non-tearful displays.

INSERT TABLE 1 HERE

Indirect effects of tears on self-reported approach tendencies through cognitive inferences. We hypothesized that increased warmth and reduced competence may explain the effect of facial expression on self-reported behavioral (approach) tendencies. To test the significance of the indirect effects, we used the SPSS macro PROCESS for bootstrapping indirect effects (Hayes, 2013), with 5000 bootstrap estimates. As an independent variable in our model, we introduced a contrast variable, where tears were coded as 2, and the neutral and sadness conditions each as -1 (thus summing up to 0). All mediation analyses from Study 1 are reported in SOM, Section E, Tables VII-X.

The bootstrap analysis showed a significant indirect effect of tears (compared to non-tearful displays) on reported approach tendencies through inferences of warmth ($B = 0.31$, $SE = 0.10$, 95% $CI [0.156; 0.533]$) but not via competence ($B = 0.01$, $SE = 0.03$, 95% $CI [-0.066; 0.073]$). Tears increased perceived warmth and therefore led to more approaching intentions.⁴

⁴ Indirect effects via cognitive inferences in Study 1 remained statistically significant when we additionally accounted for the perceived sadness of the target. We also found a significant indirect effect of tears on approach intentions via perceived sadness (see Table XXIII in SOM, Section F).

Indirect effects of tears on self-reported approach tendencies through affective responses. Compassion and discomfort were also expected to explain the effects of tears on self-reported approach tendencies. The bootstrap analysis indicated indirect effects via compassion ($B = 0.21$, $SE = 0.07$, 95% CI [0.085; 0.351]) but not via discomfort ($B = 0.03$, $SE = 0.03$, 95% CI [-0.008; 0.100]). That is, tears increased compassion and thus willingness to approach the target.

Discussion

Study 1 provided evidence for our hypothesis that tears, as a universal signal, would enhance inferences of the warmth of a member of a socially unprivileged group (i.e., a Romanian male). In contrast, no effect of tears on judgments of the immigrant as competent was detected. However, although there were no significant main effects of experimental manipulation on competence, our data suggests that it is an expression of sadness and not tears, which drives lower attributions of competence (perceived competence was lower in the sadness condition compared to the tearful display – see SOM Section A, Table I for planned contrasts). These findings are in line with research showing that crying individuals are viewed as less competent because of the sadness they express (van de Ven et al., 2017; Zickfeld et al., 2018). Further, the findings of Study 1 indicated that, compared to non-tearful displays, observers react towards a tearful immigrant with more compassion, but not necessarily with more discomfort (or other emotions such as anger or trust). Finally, we found that observers were more eager to approach a tearful than a non-tearful immigrant, and this was due to an increase in inferences of warmth and reactions of compassion only. Hence, prosocial reactions to the immigrant's tears seem driven by an altruistic motivation to comfort rather than the egoistic desire to reduce one's discomfort. In Study 2, we wanted to replicate these effects with a culturally more distant and socially less valuable immigrant group in the

context of this study, namely, Moroccans. We also compared the effects of tears to a positive social cue: smiling.

Study 2

Method

Participants and procedure. One hundred and fifty-seven undergraduate students who were attending psychology courses were invited to fill in a web-based questionnaire during the class, but the final data set consisted of Spanish native-born 150 participants (all Caucasian; 87% females; $M_{\text{age}} = 21.45$, $SD = 5.53$). Five non-native-born participants were excluded from analyses, as well as one participant with extreme responses on prejudice measures (not reported in this paper). One participant did not fill in most parts of the survey.

Then, we randomly assigned participants to one of four experimental conditions in which they were exposed to a photograph of a Moroccan (presented as Khalid who was 27 years old and had lived in Spain for four years). The emotional stimuli applied were images of the same individual extracted from a standardized Radboud Faces Database (Langner, et al., 2010, see SOM, Section G, Figure II, and procedure described in Study 1), including portraits of Moroccan males.⁵ Three conditions represented a neutral ($n = 40$), happy ($n = 37$), or sad expression ($n = 32$) whereas in the fourth condition the target was shedding tears ($n = 41$).

Measures. Unless otherwise indicated, all measures used a 7-point Likert scale from 1 (*not at all*) to 7 (*a lot*). We assessed the attribution of emotions to the four facial displays as a manipulation check. Participants rated to what extent the face on the photograph expressed sadness, happiness, or was showing tears. We captured the observer's cognitive inferences with two items, one referring to warmth and the other to competence as in Study 1.

⁵ Information about pretests carried out to examine the quality of digital manipulation of tears in Study 2 is presented in SOM, Section H.

Participants also responded to what extent they felt different emotions when seeing the photograph, including compassion ("compassion", "sadness", $r = .81$), anger ("anger", "outrage", $r = .64$), discomfort ("discomfort", "tension", $r = .52$), rejection ("rejection", "disgust", $r = .61$), and finally trust ("trust", "liking", $r = .75$). We also measured approach ($r = .84$) and avoidance ($r = .51$) tendencies towards the immigrant person as in Study 1.

Results

Simple means, standard deviations, and ANOVA statistics are presented in Table 2.

Bivariate correlations are shown in SOM, Section B (Table III).

Manipulation checks. The tearful target was perceived as conveying more sadness but less happiness compared to the happy and neutral displays but did not differ from the sad one (planned comparisons and effect sizes can be seen in Table I in SOM). Observers also agreed more that the tearful target was crying compared to the other three conditions.

Self-reported cognitive inferences. Results showed that tears reinforced perceptions of warmth compared to the sadness but not the neutral and happiness displays, thus suggesting that tears cancel out the effects of sadness. There were no statistically significant differences between tears and neutral, happiness, and sadness expressions in inferences of competence, but observers reacted with more attributions of competence in the happiness condition compared to the sadness display.

Self-reported affective responses. An expected effect of experimental condition on compassion was found, with more compassion felt in response to the target's tears compared to all three non-tearful displays (an additive effect). We also found that observers felt more discomfort and less trust in response to tears compared to the happiness condition, but the mean difference did not reach statistical significance in the case of the sadness or neutral condition. Participants also expressed more anger toward the tearful individual compared to

the happiness and neutral condition but not more than in response to the sadness display. No effects were detected in the case of rejection.

Self-reported behavioral tendencies. We also observed that participants were more prone to approach but not avoid the tearful than neutral and sadness (but not happiness) displays.

INSERT TABLE 2 HERE

Indirect effects of emotional tears on approach tendencies through cognitive inferences. As in Study 1, we created a contrast variable where tears were coded as 2, and each of the remaining two conditions as -1 (the smile condition was removed from analyses for comparability with the other two studies). This contrast variable was subsequently used as a predictor in the analyses of indirect effects. All mediation analyses from Study 2 are reported in SOM, Section E, Tables XI-XIV.

The bootstrap analysis yielded a significant indirect effect of tears (compared to non-tearful conditions) through warmth ($B = 0.07$, $SE = 0.05$, 95% CI [0.010; 0.197]) but not competence ($B = 0.01$, $SE = 0.03$, 95% CI [-0.024; 0.097]) on willingness to approach the target.⁶

Indirect effects of emotional tears on approach tendencies through affective responses. As in Study 1, we found that compassion ($B = 0.19$, $SE = 0.06$, 95% CI [0.098; 0.299]), but not discomfort ($B = -0.03$, $SE = 0.03$, 95% CI [-0.108; 0.002]), explained the effects of tears on approach tendencies towards the target, compared to the non-tearful conditions.

Discussion

⁶ Indirect effects via cognitive inferences in Study 2 remained statistically significant when we additionally accounted for the perceived sadness of the target. We also found a significant indirect effect of tears on approach intentions via perceived sadness (see Table XXIV in SOM, Section F).

Study 2 largely replicated findings from Study 1. The effects of tears on impressions of warmth were found to generalize over a member of a different cultural group (i.e., a Moroccan male). Interestingly, we have provided additional evidence on the nature of the link between tears and inferences of warmth. The judgment of the immigrant person's warmth was similar irrespective of whether the man was shedding tears or smiling. This similarity can be explained in part by the fact that, like smiling (Van Kleef, 2010), emotional tears communicate affiliative intentions in general. In contrast, tearful expression exclusively provoked reactions of compassion compared to all other emotional displays, and thus seem to be a specific signal indicating a person's suffering. Tears also activate more emotion of anger, compared to the neutral and happiness but not sadness expression. However, we failed to detect the effects of tears on discomfort, as in Study 1. It was the smile that made observers feel more comfortable in response to the immigrant person. Confirming results from Study 1, we observed again that tears elicited more approach tendencies than a neutral or sad expression, but now we also established no differences compared to the happiness display. This suggests that the tendency to approach is not a specific response to crying but rather an affiliative behavioral tendency. Finally, the analyses confirmed that inferences of warmth and reactions of compassion are the explanatory mechanisms in the link between tears and approach intentions.

In Study 3 we tested if people would respond in the same way towards members of socially disadvantaged outgroups (in this case, Syrians) and their in-group members. We were also interested in the effects of tears not only on situation-specific tendencies to approach and comfort the crier but also on prosocial responses, such as disposition to donate money and volunteer. In addition, we improved the measurement of warmth and competence by including multiple items, as well as covered a wider array of self-transcendent emotions (tenderness, *kama muta*), and we differentiated pity from compassion. Finally, given that

Studies 1 and 2 were underpowered and to guarantee that we have enough statistical power to detect smaller effects, we have used a more robust sample in Study 3 and estimated the sample size a priori.

Study 3

Method

A nationwide and diverse sample of 321 participants was recruited through Qualtrics data agency to participate in the study. For Study 3, we conducted power analysis with G*Power (Faul et al., 2007) based on effect sizes obtained in Study 1 and 2 that were in the expected direction but did not reach statistical significance such as the effect of tears, compared to the sadness display on discomfort ($d = .39$ and $d = .43$, respectively). Using the smaller effect size ($d = .39$, which is equivalent to $f = 0.21$) and considering the standard cut-off points (i.e., alpha at .05 and power at .80), a power analysis revealed that a sample of 222 participants would be required in an ANOVA with a 2 x 3 design to detect a significant main effect of a 3-level independent variable or a significant interaction effect, and with 300 participants we would reach power at .90. So, we stopped the data collection once this number was surpassed.

Twenty participants who were not born in Spain were excluded from the analysis, giving the total sample of 301 participants (48.8% female; $M_{age} = 36.27$, $SD = 10.61$).⁷ Participants were invited to fill in a web-based questionnaire and were randomly assigned to one of the six experimental conditions (2 x 3 design) in which they were exposed to a photograph of a Caucasian male (same as in Study 1). Following a standard in social

⁷ We used one-way ANOVA to test for gender effects on dependent variables in Study 3 as well. We found a significant main effect of gender on pity, $F(1,229) = 4.56$, $p = .034$, and avoidance, $F(1,229) = 5.24$, $p = .023$, with female participants feeling more pity but being less avoidant than male participants. Also, three-way ANOVA with group category, expression, and gender showed a consistent effect on the interaction between group gender and group category on all DVs, except for avoidance, donations, and volunteering intentions. Female participants tend to respond more positively towards the migrant, whereas males more positively towards the their own group's members.

psychological research procedure, we manipulated group membership by providing participants with different information about the country of origin or the name of the target in the disadvantaged (immigrant) and advantaged (non-immigrant) group condition (see Stürmer et al., 2006; van der Schalk et al., 2011; Zhao & Biernat, 2017 for similar procedures). That is, the target was presented as either member of one's group (Pablo born in the same province as the respondent) or an immigrant person (Sami, born in Syria) with either a neutral, sad, or tearful display, with the number of participants per condition ranging from 49 to 51. In the context of Spain, it was possible to frame the same photograph as an image of an immigrant versus non-immigrant. The photograph was accompanied by the following description: "Pablo is from the same province as you/Sami is from Syria. He has just moved to the city where you live and is starting to settle". Afterward, participants were asked to briefly describe the photograph. We measured the time participants spent looking at the photo and describing it. Next, participants were asked to fill in a series of measures, all placed on a scale from 1 (*not at all/completely disagree*) to 7 (*a lot/completely agree*), unless otherwise indicated.

To check the effectiveness of manipulation, we measured the attribution of emotions (neutral, sadness, or happiness), as well as perceptions of group membership (4 items, e.g., "He belongs to the same ethnic or cultural groups as me", $\alpha = .76$, adapted from Hein et al., 2010). Three items were used to measure warmth (e.g. "friendly", $\alpha = .89$) and other three covered competence (e.g., "skilled", $\alpha = .89$). We also assessed affective responses of compassion ("compassionate", "empathetic", $r = .61$), pity ("pitiful", "regretful", "sad", $\alpha = .91$), *kama muta* ("touched", "moved", $r = .69$), tenderness ("warmhearted", "kind", $r = .65$), anger ("angry", "irritated", "outraged", $\alpha = .84$), discomfort ("tense", "nervous", "stressed", $\alpha = .88$), and trust ("trusting", "confiding", $r = .52$). Approach ($r = .88$) and avoidance tendencies ($r = .63$) were measured as in Study 1. We also measured intentions to donate (2

items, “donating money to finance his professional training”, “donating money to financial aid to favor his immediate hiring”, $r = .90$) and volunteer in order to help the man on the photograph (3 items, “help him do paperwork at the bank”, “assist him in the official business procedures”, “help him register in your municipality”, $\alpha = .95$).

Results

Simple means, standard deviations, and two-factor ANOVA statistics are presented in Table 3. Bivariate correlations and estimated marginal means with standard errors are shown in SOM (Table IV, Section B, and Table V, Section C, respectively).

Manipulation checks. Two-factor ANOVA (group category: immigrant vs. non-immigrant x expression: neutral, sadness, tears) showed that, as expected, non-migrant was perceived as more belonging to one's group than the outgroup member (see SOM, Section A, Table I for planned comparisons and effect sizes). Also, the tearful target was perceived as significantly sadder than both non-tearful targets. The tearful individual was also perceived as less neutral than the neutral and the sadness displays.

Self-reported cognitive inferences. Results revealed a significant effect of expression but not of group category or interaction on perceptions of warmth and competence. Participants perceived the tearful person as warmer compared to the non-tearful displays, and as more competent compared to the sadness but not the neutral condition.

Self-reported affective responses. We found a significant effect of the expression on compassion, tenderness, *kama muta*, pity, and anger. Participants responded with more compassion, tenderness, *kama muta*, and pity to the tearful than to the non-tearful displays. We did not find significant effects of expression on discomfort or trust, and no significant effects of group category or interactions were detected on any of the emotions measured. Observers felt more anger in response to tears than to the sadness display, but not more than in the neutral one.

Self-reported behavioral tendencies. Two-factor ANOVA also showed that observers were more willing to approach, but not avoid, the tearful target than the non-tearful ones. No significant group category or interaction effects were found. There was also a significant effect of the expression on donating but not on volunteering intentions. Participants were more willing to donate money to help the tearful person, as compared to the sadness condition but the effect did not reach statistical significance for the neutral display. No significant group category or interaction effects were observed.

INSERT TABLE 3 HERE

Indirect effects of emotional tears on self-reported helping intentions through cognitive inferences. To test the indirect effects with PROCESS, we used a contrast variable as a predictor, where the tears were coded as 2, and both sadness and neutral conditions as -1. We introduced the group category as a covariate in the model (but not the interaction term, given that we did not detect any statistically significant interactions). Complete mediation analyses from Study 3 are reported in SOM, Section E, Tables XV-XXII.

The bootstrap analysis yielded a significant indirect effect of tears (compared to non-tearful conditions) through both higher warmth ($B = 0.08$, $SE = 0.03$, 95% CI [0.025; 0.156]) and higher competence ($B = 0.04$, $SE = 0.03$, 95% CI [0.003; 0.103]) on approach tendencies. However, only warmth was a significant mediator of the effects of tears on donating intentions ($B = 0.06$, $SE = 0.03$, 95% CI [0.019; 0.138]). The indirect effect of competence in turn included zero ($B = 0.02$, $SE = 0.02$, 95% CI [-0.021; 0.147]). We also tested for an indirect effect of tears on volunteering intentions. Tears showed a significant effect on volunteering intentions through competence ($B = 0.04$, $SE = 0.03$, 95% CI [0.004; 0.117]) but not through warmth ($B = 0.04$, $SE = 0.02$, 95% CI [-0.003; 0.113]).

Indirect effects of emotional tears on self-reported helping intentions through affective responses. Given that the self-transcendent emotions such as compassion,

tenderness, and *kama muta* correlated strongly with each other, we created a common measure of self-transcendent (compassion-related) emotions. We thus tested again the effects of self-transcendent and self-focused (discomfort) emotions. The bootstrap analysis showed a significant indirect effect of tears (compared to non-tearful displays) on approach tendencies through self-transcendent emotions ($B = 0.27$, $SE = 0.05$, 95% CI [0.175; 0.372]) but not via discomfort ($B = 0.00$, $SE = 0.003$, 95% CI [-0.006; 0.008]).

Indirect effects of tears on donating intentions were also significant via self-transcendent-emotions ($B = 0.15$, $SE = 0.04$, 95% CI [0.089; 0.224]) but not via discomfort ($B = 0.00$, $SE = 0.01$, 95% CI [-0.027; 0.027]). We again tested indirect effects on volunteering intentions because the total effect (tearful versus non-tearful expressions) was significant ($B = 0.15$, $SE = 0.08$, $p = .045$, 95% CI [0.003; 0.298]) though small. Tears showed a significant indirect effect on volunteering intentions via self-transcendent emotions ($B = 0.19$, $SE = 0.04$, 95% CI [0.117; 0.281]) but not through discomfort ($B = 0.00$, $SE = 0.01$, 95% CI [-0.012; 0.015]).⁸

Discussion

In Study 3 we further extended our findings from the first two experiments by testing the effects of tears shed by members of socially disadvantaged groups as compared to one's group members. Again, tears were proved to be a universal affiliative cue that increases judgments of warmth, independently of group category. In contrast, unlike in Study 1 and 2 where tears did not affect perceptions of competence, the displays of sadness decreased perceptions of competence whereas tears seem to attenuate this effect relative to the neutral display. Further, corroborating findings from previous experiments, compared with non-

⁸ Indirect effects via cognitive inferences in Study 3 remained statistically significant when we additionally accounted for the perceived sadness of the target. We also found a significant indirect effect of tears on approach and helping intentions via perceived sadness (see Tables XXV-XXVII in SOM, Section F).

tearful displays, observers felt more other-suffering emotions of compassion, as well as pity, tenderness, and *kama muta* toward the tearful person. The emotion of anger was higher in the tearful condition compared to the sadness condition, which may reflect moral anger felt about the situation of the target rather than anger oriented towards the person.

Importantly, participants were more willing to approach and comfort the crier, as well as to donate money (but not to volunteer) to help the tearful person, as compared to the display of sadness. Inferences of warmth and self-transcendent (compassion related) emotions were explanatory mechanisms in this link, suggesting that observers' prosociality in response to someone's tears is driven by both the target's general affiliative intentions (expressed through warmth) and motivation to reduce the other person's suffering (accompanied by feeling compassion). Although we did not find the main effects of tears through a two-factor analysis of variance, we did observe that tears, as compared to both non-tearful expressions, increase observers' volunteering intentions indirectly through inferences of competence and activation of self-transcendent emotions.

Integrative Data Analysis

Given small sample sizes in Studies 1 and 2, we also analyzed our pooled data from three experiments using the Integrative Data Analysis (IDA; Curran & Hussong, 2009). This strategy has been suggested to have several advantages, including increasing statistical power. It also allows controlling between-study heterogeneity resulting from characteristics that uniquely define each study, such as differences in sampling techniques, design characteristics, or measurement tools, and thus testing the generalizability and reliability of findings. For this purpose, the effects of assignment in each study and its interactions with the rest of the independent variables are additionally estimated in the model. Accordingly, we performed the analyses using dependent variables in common and introducing the target (i.e., Romanian, Moroccan, Syrian, Spaniard), and manipulation of tears (versus sad and neutral

non-tearful expressions) as independent variables, as well as interactions between them in the model (please see SOM Section D, Table VI for all statistical tests).

Manipulation Checks

We observed a significant effect of tears on attributions of sadness. The tearful target was perceived as conveying more sadness than both non-tearful expressions (including sadness), but this effect was more pronounced for the Romanian and less pronounced for the Moroccan target (a significant interaction effect). In addition, there was a significant target effect, with less sadness being attributed to the Moroccan immigrant than all other targets.

Self-reported Cognitive Inferences

The analyses also revealed a significant effect of tears, target, and tears x target interaction on judgments of warmth. The tearful target was evaluated as warmer than non-tearful expression, but this effect was more pronounced for the Romanian target compared to both Muslim (Moroccan and Syrian) and the non-migrant target. Also, the Moroccan target was perceived generally as colder than all other targets. There was also a significant effect of tears on perceptions of competence, with the tearful target regarded as more competent than the sad target (but not the neutral one). No significant effect of target group or interaction was detected, suggesting that the influence of tears held constant across all studies and that the targets did not differ in terms of competence attributed to them.

Self-reported Affective Responses

We also found that observers felt more compassion towards the tearful than the non-tearful targets, and this held constant across all studies (no significant interaction was detected). There was also a significant target effect: the Moroccan immigrant awoke less compassion compared to other group categories, and the Romanian target activated less compassion than the non-migrant. Corroborating findings from the independent studies, tears did not activate more discomfort. Yet, there was a significant effect of the target group on

discomfort: both the Syrian and the non-migrant target activated more discomfort than the Moroccan and Romanian targets.

We also tested in an exploratory way the impact of tears on trust and anger. Whereas the main effect did not reach statistical significance, there was a significant target and interaction effect, suggesting that the Syrian and the non-migrant target activated more trust than the Moroccan and the Romanian. The effect of expression was also more pronounced for these less trusted groups. We observed, in addition, significant effects of expression and target on anger. Observers felt more anger in response to tears compared to non-tearful expressions, as well as in response to the Syrian and non-migrant target than in response to the Moroccan and Romanian target. No significant interaction was detected.

Self-reported Behavioral Intentions

We found a significant effect of the expression on intentions to approach (but not avoid) the tearful person. Observers were more willing to approach the tearful than the non-tearful targets, and this effect held constant in strength across all studies (no statistically significant interaction effects were detected). There was a significant target effect on both approach and avoidance intentions, with the Moroccan target activated fewer approach tendencies compared to all other targets, and both the Syrian and the non-migrant activating more avoidance compared to the other two targets (i.e., the Moroccan and Romanian).

General Discussion

Tears are one of the strongest social signals (Cornelius & Labott, 2001), yet existing research has largely ignored their importance for shaping prosocial responses towards members of socially disadvantaged groups. Our findings suggest that nonverbal emotional cues, such as emotional tears, effectively induce empathetic and prosocial responses to the suffering expressed by people who belong to a different ethnocultural groups. Specifically, we have experimentally shown that immigrants shedding emotional tears are perceived as

warmer but not as less competent compared to the non-tearful expressions (relative to tears, sadness was found to decrease competence). Moreover, compared to other displays, emotional tears evoke feelings of compassion (or more broadly compassion-related emotions) and increased willingness to approach a tearful immigrant. In contrast, observers did not react to tears with more feelings of discomfort or trust, and neither did they display more tendency to avoid contact with the crier. These findings were supported by the integrative data analysis. In addition, in Study 3, tears encouraged helping intentions such as making donations but did not extend to the willingness to volunteer to assist the person in need. Both cognitive (inferences of warmth) and affective (compassion) processes were explanatory mechanisms of these effects, and these effects held equal for ingroup fellows and immigrants. The present research extends the existing literature by demonstrating how facial expressions impact perception (Menges & Kilduff, 2015), emotional experience, and willingness to respond prosocially towards immigrants.

Cognitive Responses to Disadvantaged Groups' Tears

Warmth is argued to reveal one's intentions towards others (Fiske et al., 2002), and helps to distinguish between groups that have cooperative relations and ones that may be considered threatening. This experimental research has shown that signaling one's suffering through tears was associated with perceiving a member of a socially disadvantaged group as warmer, complementing findings from earlier studies (e.g., Hendriks & Vingerhoets, 2006; van de Ven et al., 2017; Zickfeld & Schubert, 2018). Interestingly, emotional tears and a smile (Study 2) were considered manifestations of a person's warmth, suggesting that tears, just as smiling, are generally interpreted as an affiliative social cue (e.g. Scharlemann et al., 2001). We also found that group membership was irrelevant for judgments of warmth: the effects of tears among *both* members of disadvantaged (immigrants) and advantaged (non-immigrants) groups were equal in strength in Study 3.

It is worth noting that there was a lack of differences in cognitive judgments of (and also in affective responses to) neutral targets belonging to two different group categories in Study 3. However, when one considers the results of the Integrative Data Analysis where we can compare the effect of tears in the image of the same person framed with three different social categories (a Romanian, a Spaniard, and a Syrian) and consider a significant interaction effect in the case of evaluations of warmth, the intergroup bias becomes pronounced when comparing the image of a voluntary migrant/migrant worker (Romanian) and the non-migrant whereas such a difference is not the case for the case of forced migrant. The Romanian (and also Moroccan) target seems also to activate fewer feelings of trust (as a proxy for intergroup bias) than both the Syrian (implicitly, an involuntary migrant) and the non-migrant target, and the effect of expression was also more pronounced for these less trusted groups of voluntary migrants. It, therefore, seems that the Syrian target represents a particular case of a migrant, namely, an asylum seeker, and thus can activate slightly different responses than voluntary migrants.

In sum, tears can be considered as a display of affiliative intentions and thus a strategy to communicate suffering and the need for succor, also in response to members of socially disadvantaged groups (Hess & Bourgeois, 2010). In addition, although examining the effects of sadness was not a primary aim of this research, our data also suggest that facial displays of sadness (as compared to a neutral expression) decrease perceptions of immigrant's warmth. This result is preoccupying given that the predominant image of immigration in mass media frequently conveys sadness and helplessness.

Findings regarding the perceptions of competence were less coherent across the three studies but clarified with additional integrative analyses. Namely, in the pooled data we found that tearful migrants (but also non-migrants) are regarded as more competent compared to those who manifest sadness but do not cry. This finding differs from earlier studies, which

have shown that tears are linked to lower competence (van de Ven et al., 2017; Zickfeld et al., 2018, Study 1) or are unrelated to it (Zickfeld et al., 2018, Study 2). Nonetheless, one needs to consider that, unlike previous research where tears were digitally removed and also female targets were used, our experimental stimuli were generated by adding tears to expressing sadness male faces. Standardized images expressing sadness were also used as a control condition, which can explain why perceptions of competence augmented for tears compared to sadness but not the neural display. Hence, the expression of sadness invoked lower perceptions of competence in comparison with the other two conditions. These findings match evidence showing that crying individuals are perceived as less competent because of the sadness they express (van de Ven et al., 2017; Zickfeld et al., 2018). Still, research combining different stimuli and methods is needed to draw clearer conclusions regarding the influence of tears on judgments of competence (Zickfeld et al., 2018) and to disentangle the impact of tears from that of tearless manifestations of sadness.

Affective Responses to Disadvantaged Groups' Tears

Emotional tears were also expected to evoke certain affective responses towards immigrants. Across all three studies, displaying tears was shown to effectively awaken others' compassion, as well other self-transcendent emotions such as tenderness or feeling moved, towards members of socially disadvantaged groups such as immigrants (Study 3). This effect held equivalent in strength irrespective of who shed tears but was unambiguously due to crying as compared to other affiliative displays such as smiling. Hence, our results suggest that compassion is a particular reaction to emotional tears, which can help to connect oneself with the suffering person and show kindness towards them (Neff & Vonk, 2009). These findings are in line with evidence showing that shedding tears evokes sympathy (Zeifman & Brown, 2011) and makes people feel touched and moved (Zickfeld & Schubert, 2018) and socially connected to the crier (Vingerhoets et al., 2016). Our findings elucidate a novel

perspective on the role of empathy in interethnic, and more broadly, intergroup interactions and for promoting responses to suffering by outgroup members. Even though people might feel motivated to dissociate from outgroup suffering (see Cikara et al., 2011), certain emotional cues such as emotional tears may serve as an intervention to evoke empathic concern and care about ethnoculturally diverse others. In contrast to some earlier findings (Hendriks et al., 2008; Hendriks & Vingerhoets, 2006), we failed to observe any effects of tears on discomfort, suggesting that people do not necessarily react to suffering communicated by tears with negative passive emotions such as personal distress (Batson et al., 1983), also in the case of members of underprivileged, or even threatening, social groups such as immigrants. Perhaps observers feel distressed or discomfort in response to other cues conveying suffering (e.g., expressions of pain) or depending on the intensity and the context of crying. In addition, this finding is worth discussing with the literature suggesting that people may even experience pleasure in response to sufferers who are considered competitors but this would not necessarily apply to members of more disadvantaged groups (Cikara et al., 2011). We speculate that the presence of emotional tears, shown to communicate helplessness and active connectedness (Vingerhoets et al., 2016), would attenuate perceiving the sufferers as competitors and thus would cancel the link between outgroup suffering and schadenfreude (i.e., pleasure at other's pain).

Finally, we also tested in an exploratory way to what extent tears activate other affective reactions, including positive (trust) and negative (anger) emotions. We found that tears were unrelated to feeling trust towards the individual. Trust was only elicited by smiling, indicating that it is a more specific reaction to the displays of happiness. In contrast, tears evoked more feelings of anger compared to the neutral or happiness display but not to the expression of sadness. Together, our findings suggest that compassion and other self-transcendent emotions are more unique responses to tears, whereas anger may be a more

generalized reaction to a negative emotional state. Research should further investigate the role of moral anger in response to an outgroup member's negative emotional state.

Self-Reported Behavioral Intentions towards Disadvantaged Groups' Tears

Displaying tears also encouraged observers to establish contact and offer members of a socially disadvantaged group comfort whereas did not prompt them to avoid the person, in line with previous evidence suggesting that tearful individuals, in general, elicit more approach (Gračanin, Krahmer, et al., 2018; Riem et al., 2017; van de Ven et al., 2017; Vingerhoets et al., 2016; Zickfeld & Schubert, 2018). In addition, these results did not differ in strength depending on the target, including when the one who shed tears was a member of one's group. This latter finding diverges from results recently obtained in a cross-cultural study involving 41 countries (Zickfeld et al., 2021) where the effect of emotional tears on social support intentions was slightly stronger for those targets with whom participants identified less. One possible reason for these differences might be that in our research we manipulated group membership by framing the ethnic background of the target whereas in the cross-cultural project group membership was measured more broadly as the degree of identification with the target. Importantly, we have additionally shown that tears motivate observers to engage in such aspects of prosociality as the willingness to donate money to finance professional training and employment of a member of an underprivileged group (Study 3), that is, behavioral intentions that go beyond the willingness to offer comfort.

These effects did not generalize over intentions to volunteer, such as helping with official procedures at the bank or registration at the municipality. That is, tears prompted intentions to provide help through charity but not necessarily to get actively involved in helping the immigrant to establish in one's city. These results are in line with the literature suggesting that the function of crying is to elicit in others comfort and help to alleviate pain (e.g., Hendriks & Vingerhoets, 2006; Hendriks et al., 2008) - small 'p' prosociality, but also

point out an interesting direction: tears may have differential influence on certain types of prosocial behavior depending on whether observers are willing to facilitate the person being helped to achieve or regain power.

Thus, despite these promising results, questions remain. Are tears indeed more effective in promoting charity but not more engaging forms of prosocial behavior? In line with the Model of Intergroup Helping as Power Relations (e.g., Halabi et al., 2014), people are motivated to provide different types of help depending on power dynamics between the helpers and those in need of assistance. Considering involved intergroup relations, it is plausible that among members of privileged social groups tears would encourage more dependency-oriented help, that is, seeking to provide an immediate solution for a problem while keeping the receivers in a situation of inferiority (e.g., donating food or providing temporary shelter). On the contrary, members of the dominant groups may feel less inclined to provide autonomy-oriented help, which aims to provide tools, knowledge, and resources to entitle receivers to solve problems themselves (as for access to employment, housing or regular incomes), thus improving their social position. Future research should test this idea empirically.

Explanatory Mechanisms in the Link between Tears and Prosociality

Current research has also significant implications for the understanding of *why* emotional tears enhance prosociality. First, our findings suggest that judgments of warmth explain the effect of tears on willingness to interact with and comfort a person in need, in line with previous research showing similar effects (e.g., Reed et al., 2019; van de Ven et al., 2017; Vingerhoets et al., 2016) and recent evidence from 41 countries (Zickfeld et al., 2021). In addition, perceived warmth in response to tears also activated intentions to make donations, whereas perceived competence was an explanatory mechanism of the effects of tears on disposition to personally volunteer and help the individual in need. This finding,

while preliminary, raises intriguing questions regarding what motivates people to respond prosocially to somebody else's tears. A possible explanation for this differential effect might be that the perceptions of warmth drive more dependency-oriented types forms of aid such as charity, whereas attributions of ability and competence might be more relevant in facilitating more autonomy-oriented help. However, it is important to stress that competence was rather affected by manifestations of sadness itself, whereas tears could have attenuated these negative effects. This is coherent with research that shows that tears decrease evaluations of competence due to the sadness they convey (van de Ven et al., 2017).

Compassion (or jointly self-transcendent emotions of compassion, tenderness, and feeling moved) was also a mechanism that generates the link between emotional tears and prosociality, including both immediate succor and big 'P' prosocial intentions such as donation (but not volunteering) intentions. Yet, we failed to detect similar effects via the discomfort. These findings are interesting because previous studies have suggested that people want to help tearful individuals to deal with their negative feelings (e.g., Hendriks et al., 2008; Hendriks & Vingerhoets, 2006) but no research has tested to what extent approaching a tearful individual may be driven by compassion or other self-transcendent emotions such as tenderness or feeling moved. Only recently available data from the cross-cultural study on tears confirm that people are willing to comfort criers because of compassionate feelings (empathic concern) towards the target but not due to discomfort (personal distress) the tearful person may cause (Zickfeld et al., 2021). Together, our findings suggest that people are motivated to both establish contact with and to offer a tearful member of socially disadvantaged group financial help due to altruistic motivations, rather than to reduce distress experienced due to someone's suffering (Batson et al., 1983). Our findings point in an interesting direction and suggest that compassion is more relevant than discomfort in promoting prosocial responses to tears.

It is also worth noting that in two of three studies, and the integrative analyses, the tearful condition produced greater perceived sadness compared to the non-tearful conditions, including the display of sadness itself. Our results are consistent with the idea of a sadness-enhancing effect of tears (Balsters et al., 2013; Provine et al., 2009; Reed et al., 2015). Further, some research showed that this sadness-enhancing effect is an explanatory mechanism in the influence of tears on other outcomes, such as perceived competence (van de Ven et al., 2017; Zickfeld et al., 2018). Our exploratory post hoc mediation analyses extend this research by showing that perceived sadness is an additional relevant explanatory mechanism in the link between tears and approach intentions across the three studies and also donation and volunteering intentions in Study 3. Importantly, the indirect effects of warmth (and in specific cases, competence) remained statistically significant even when the effect of perceived sadness was accounted for. These findings also align with the recent cross-cultural evidence that perceived helplessness (as an operationalization for perceived sadness) explains the influence of tears on the willingness to provide emotional support (Zickfeld et al., 2021).

Limitations and Future Research

This research is not devoid of limitations. First, our sample in two studies largely consisted of women (85-87% of participants were females) and included undergraduate students, and, consequently, our findings are not representative of the general society. Yet, we failed to detect major observer's gender effects, and we also addressed this limitation in Study 3. This result is consistent with previous literature suggesting that the observer's gender does not influence the social reaction to adult crying (Hendriks & Vingerhoets, 2006; van de Ven et al., 2017). Also, the targets in our research were male, and our conclusions are limited to impression formation and responses to tearful male immigrants. However, some studies suggest that the effects of tears on an observer's responses are smaller for male targets compared to female ones (Cretser et al., 1982). Thus, our mostly strong effects of tears

obtained with males as target gain importance as evidence for the universal functions of tears. In addition, to provide additional external validity to our findings, future research should focus on different target groups (e.g., Latino or Asian immigrants). Yet, one needs to consider that the stimuli were presented to participants without time constraints, and this could have affected the strength of obtained effects.

Further, various situational or contextual factors may also influence the effect of tears, and the image of a tearful immigrant male used in our study leaves it open to interpretation as to why the man is crying. Our participants likely attributed the crying to a personal tragedy (e.g., losing family members on the journey or leaving family behind). However, the same tears might produce different reactions in a perceiver if they are shown as manipulative (e.g., when caught by police or during an immigration interview). In addition, behavioral responses towards a tearful person may depend on the degree of familiarity with him or her. Crying among strangers may be seen as inappropriate and thus provoke avoidance, whereas people are more likely to respond more favorably and support a crying person who is a friend (Hendriks et al., 2008). Future studies should manipulate the social context of crying by members of socially disadvantaged groups and test if tears fire back when perceived as manipulative or when the tearful target is unfamiliar (for more on the effects of social context see Zickfeld et al., 2021).

The way people respond to tears could be also influenced by the interaction between the crier and another person. Mass media frequently narrate stories of immigrants (e.g., refugees) being helped or comforted by NGO volunteers or rescuers, but these stories can provoke mixed reactions (as was the case of Carola Rackete, the captain of the Sea Watch 3 ship, who rescued and tried to bring 53 emigrants drifting in the Mediterranean Sea to Italian ports). Nonetheless, no research to date has tested the effects of tears in observers depending on whether the tearful person is shown as being helped or comforted by another person or

not. Observing members of one's group providing comfort to a member of a different group may be extremely relevant in establishing a social norm for behaving prosocially and thus actual action an observer will become involved in. Further investigation could also include other types of behavioral intentions, such as willingness to give an immigrant person employment or being willing to make friends, as well as test the influence of tears on actual prosocial behavior (i.e., sharing, donating, co-operating, volunteering) beyond self-reported intentions. Behavior has a direct effect on social reality but measuring it has been one of the biggest challenges in social sciences (Baumeister et al., 2007).

Finally, our research has focused on certain types of affective and cognitive processes as explanatory mechanisms in the link between tears and self-reported behavioral intentions. Still, it is necessary to point out that there might be alternative processes at play. For instance, tears – as smiling and other nonverbal expressions of warmth – are considered typically human characteristics that encourage affinity and may serve as a powerful indicator of one's humanness. Humanness encompasses a wide array of human features, such as traits that are *uniquely* human (e.g., rationality, morality) or *naturally* human (e.g., emotionality, warmth) (Haslam, 2006). Attribution of such human features may be particularly pertinent in intergroup context (Bastian, & Haslam, 2011). Members of certain groups are often attributed lesser humanity than one's group, and these dehumanized groups receive less assistance in situations of suffering (Cuddy et al., 2007). Still, existing research has not examined to what extent tears are perceived as a uniquely human feature or a human nature trait, and whether these characteristics explain the impact of tears on behaving prosocially.

In the case of members of unfamiliar social groups, it is also plausible to expect that emotional tears shift the perception of a person from being a member of another social group to being included in one's group category (possibly at a higher level of abstraction, as 'a human'). Thus, identification with all humanity could be another interesting intervening

variable to take into account. Other moral emotions (such as group-based guilt or moral outrage) could be also considered alternative affective mechanisms involved in activating behavioral responses to tears.

Conclusion

The present research addressed an important and timely issue: Whether nonverbal communication through emotional tears shapes responses towards newcomers to a society. We have shown that tears are universal affiliative cues that communicate warmth, arouse compassion (but also anger), and enhance intentions to approach and comfort the crier but also prosocial responses (such as donating money to provide further assistance to the person in need). Members of socially disadvantaged groups (i.e., immigrants) were found to activate similar responses as members of one's group. Future research should further investigate if our findings are extendable to other socially disadvantaged groups and involved social challenges, such as gender-based violence, bullying, terrorism, or stigma of mental illness, providing a broader scope for future research. A more multidisciplinary approach, combining concepts and methods from experimental social psychology and intercultural communication, and social and solidarity economy, is needed to address this challenge.

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Table 1

The Effects of Emotional Tears on Observer's Self-reported Cognitive Judgments, Affective Responses, and Behavioral Intentions: Analysis of Variance, Simple Means, and Standard Deviations in Study 1

	Neutral <i>M</i> (<i>SD</i>)	Sad <i>M</i> (<i>SD</i>)	Crying <i>M</i> (<i>SD</i>)	<i>df</i>	<i>F</i>	<i>p</i>
<i>Manipulation checks</i>						
Neutral	3.73 (2.21)	1.74 (1.09)	1.34 (0.81)	2, 94	22.73	< .001
Sadness	4.05 (1.73)	5.87 (1.20)	6.62 (0.62)	2, 94	33.94	< .001
Tears	2.11 (1.35)	3.68 (1.62)	5.28 (1.39)	2, 94	38.86	< .001
<i>Observer's self-reported cognitive inferences</i>						
Warmth	3.11 (2.22)	3.55 (1.91)	5.76 (1.88)	2, 94	15.23	< .001
Competence	4.08 (1.85)	3.71 (1.97)	4.76 (2.17)	2, 94	2.15	.123
<i>Observer's self-reported affective responses</i>						
Compassion	3.12 (1.54)	4.29 (1.27)	5.03 (1.59)	2, 94	14.19	< .001
Discomfort	2.12 (1.10)	2.03 (1.01)	2.53 (1.31)	2, 94	1.67	.194
Trust	2.84 (1.18)	2.79 (1.14)	3.41 (1.48)	2, 94	2.28	.108
Anger	1.41 (0.83)	1.55 (1.03)	2.10 (1.68)	2, 94	2.95	.057
Rejection	1.43 (0.65)	1.45 (0.77)	1.17 (0.47)	2, 94	1.78	.174
<i>Observer's self-reported behavioral intentions</i>						
Approach intentions	3.54 (1.60)	4.15 (1.63)	5.21 (1.42)	2, 94	9.80	< .001
Avoidance intentions	1.47 (0.63)	1.35 (0.52)	1.41 (0.66)	2, 94	0.75	.476

Table 2

The Effects of Emotional Tears on Observer's Self-reported Cognitive Judgments, Affective Responses, and Behavioral Intentions: Analysis of Variance, Simple Means, and Standard Deviations in Study 2

	Neutral <i>M (SD)</i>	Happy <i>M (SD)</i>	Sad <i>M (SD)</i>	Crying <i>M (SD)</i>	<i>df</i>	<i>F</i>	<i>p</i>
<i>Manipulation checks</i>							
Sadness	2.67 (1.56)	1.40 (0.83)	5.34 (1.43)	5.76 (1.48)	3, 143	89.21	< .001
Tears	1.29 (0.69)	1.22 (0.63)	2.50 (1.46)	6.10 (1.34)	3, 143	175.59	< .001
Happiness	2.79 (1.42)	5.57 (1.42)	1.25 (0.76)	1.05 (0.22)	3, 145	138.01	< .001
<i>Observer's self-reported cognitive inferences</i>							
Warmth	3.50 (2.00)	4.95 (2.38)	2.19 (1.40)	3.92 (2.21)	3, 145	10.61	< .001
Competence	4.37 (1.93)	4.65 (2.31)	3.19 (1.86)	4.10 (2.33)	3, 145	3.03	.033
<i>Observer's self-reported affective responses</i>							
Compassion	2.24 (1.41)	1.76 (1.08)	3.19 (1.86)	4.17 (1.63)	3, 146	19.61	< .001
Discomfort	1.79 (1.17)	1.31 (0.62)	1.91 (1.19)	2.40 (1.28)	3, 146	6.31	< .001
Trust	3.27 (1.34)	4.03 (1.56)	2.26 (1.06)	2.52 (1.55)	3, 146	11.46	< .001
Anger	1.11 (0.31)	1.07 (0.34)	1.16 (0.35)	1.54 (1.03)	3, 146	4.98	.003
Rejection	1.23 (0.73)	1.07 (0.34)	1.26 (.053)	1.30 (0.65)	3, 146	1.16	.328
<i>Observer's self-reported behavioral intentions</i>							
Approach intentions	3.16 (1.28)	3.38 (1.53)	3.16 (1.36)	4.12 (1.59)	3, 146	3.88	.011

Avoidance intentions	1.71 (1.13)	1.68 (0.94)	2.11 (1.09)	2.00 (1.25)	3, 146	1.20	.312
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Table 3

The Effects of Emotional Tears on Observer's Self-reported Cognitive Judgments, Affective Responses, and Behavioral Intentions: Two-factor ANOVAs, Simple Means and Standard Deviations in Study 3

		Neutral <i>M (SD)</i>	Sad <i>M (SD)</i>	Tears <i>M (SD)</i>	<i>df</i>		<i>F</i>	<i>p</i>
<i>Manipulation checks</i>								
Group category	Non- Migrant	4.41 (1.10)	4.20 (1.31)	4.57 (1.06)	1	1, 292	0.75	.474
					2	2, 292	73.47	< .001
	Migrant	3.06 (1.40)	3.18 (1.10)	3.22 (1.48)	3	2, 292	0.58	.562
Neutral	Non- Migrant	3.63 (1.56)	2.54 (1.34)	2.00 (1.41)	1	1, 292	25.95	< .001
					2	2, 292	0.01	.917
	Migrant	3.42 (1.74)	2.75 (1.48)	2.06 (1.33)	3	2, 292	0.52	.595
Sadness	Non- Migrant	4.87 (1.43)	5.88 (1.32)	6.44 (0.91)	1	1, 293	33.31	< .001
					2	2, 293	1.52	.219
	Migrant	4.54 (2.03)	5.67 (1.63)	6.34 (1.38)	3	2, 293	0.15	.865
<i>Observer's self-reported cognitive inferences</i>								
Warmth	Non- Migrant	3.66 (1.14)	3.78 (1.26)	4.25 (1.13)	1	1, 293	4.97	.008
					2	2, 293	0.58	.448
	Migrant	3.83 (1.61)	3.88 (1.37)	4.33 (1.31)	3	2, 293	0.39	.962
Competence	Non- Migrant	4.04 (1.05)	3.67 (1.25)	4.22 (1.00)	1	1, 292	3.99	.020
					2	2, 292	0.01	.926
	Migrant	4.01 (1.4)	3.75 (1.36)	4.20 (1.42)	3	2, 292	0.06	.944
<i>Observer's self-reported affective responses</i>								
Compassion	Non- Migrant	4.19 (1.16)	4.65 (1.51)	5.15 (1.30)	1	1, 293	12.07	< .001
					2	2, 293	1.15	.285

	Migrant	4.07 (1.57)	4.32 (1.5)	5.07 (1.51)	3	2, 293	0.22	.807
Tenderness	Non-Migrant	3.64 (1.15)	3.93 (1.72)	4.44 (1.21)	1	1, 293	9.99	< .001
					2	2, 293	0.02	.901
	Migrant	3.62 (1.64)	3.75 (1.4)	4.58 (1.54)	3	2, 293	0.30	.745
<i>Kama muta</i>	Non-Migrant	3.90 (1.48)	4.23 (1.75)	5.09 (1.22)	1	1, 293	15.84	< .001
					2	2, 293	0.05	.818
	Migrant	3.92 (1.71)	4.10 (1.52)	5.08 (1.58)	3	2, 293	0.06	.939
Pity	Non-Migrant	4.18 (1.39)	4.79 (1.64)	5.43 (1.16)	1	1, 293	21.84	< .001
					2	2, 293	0.30	.583
	Migrant	4.03 (1.78)	4.51 (1.60)	5.57 (1.45)	3	2, 293	0.50	.606
Discomfort	Non-Migrant	3.24 (1.43)	3.12 (1.61)	3.07 (1.55)	1	1, 292	0.01	.987
					2	2, 292	0.51	.478
	Migrant	2.95 (1.69)	3.01 (1.53)	3.07 (1.72)	3	2, 292	0.20	.818
Trust	Non-Migrant	3.36 (1.13)	3.53 (1.43)	3.72 (1.03)	1	1, 293	0.67	.513
					2	2, 293	0.02	.880
	Migrant	3.62 (1.58)	3.43 (1.45)	3.63 (1.41)	3	2, 293	0.60	.550
Anger	Non-Migrant	3.08 (1.47)	2.71 (1.45)	3.29 (1.43)	1	1, 293	3.92	.021
					2	2, 293	0.40	.527
	Migrant	2.93 (1.65)	2.93 (1.59)	3.57 (1.82)	3	2, 293	0.55	.578
<i>Observer's self-reported behavioral intentions</i>								
Approach intentions	Non-Migrant	3.96 (1.55)	3.94 (1.72)	4.80 (1.37)	1	1, 293	8.45	< .001
					2	2, 293	0.03	.873
	Migrant	3.91 (1.92)	3.94 (1.72)	4.76 (1.72)	3	2, 293	0.01	.994
Avoidance intentions	Non-Migrant	3.19 (1.59)	2.86 (1.53)	2.77 (1.57)	1	1, 293	0.62	.539
					2	2, 293	0.38	.539
	Migrant	3.05 (1.81)	3.18 (1.66)	2.95 (1.87)	3	2, 293	0.50	.607
Donating intentions	Non-Migrant	3.41 (1.48)	3.20 (1.71)	3.88 (1.62)	1	1, 293	5.26	.006
					2	2, 293	2.91	.089
	Migrant				3	2, 293	0.06	.941

		3.06 (1.83)	2.80 (1.53)	3.64 (1.87)				
Volunteering intentions	Non-Migrant	3.75 (1.59)	3.78 (1.88)	4.06 (1.70)	1	1, 293	1.97	.141
					2	2, 293	2.43	.121
	Migrant	3.50 (1.96)	3.19 (1.81)	3.91 (2.04)	3	2, 293	0.40	.670

Note. 1 = Expression, 2 = Target, 3 = Interaction expression x target.