

Tears Do Not Influence Competence in General, but Only Under Specific Circumstances: A Systematic Investigation Across 41 Countries

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Research on the effect of emotional tears on perceived competence has yielded an inconsistent pattern of findings, with some studies showing that tearful individuals may be perceived as less competent, while others report no such effect. These mixed results point to the likely existence of third variables influencing the link between tears and perceived competence and suggest that crying may affect competence only in specific circumstances. In the current project, we reexamine this link using a large, openly available dataset of responses to tearful faces collected across 41 countries and 7,007 participants (Zickfeld et al., 2021). Our results show that tears have no general effect on perceptions of competence but do reduce competence when crying is regarded as inappropriate (e.g., there is no clear reason for shedding tears) or when the target is perceived as helpless. Moreover, shedding tears *increases* competence when the target is perceived as honest. As emotional tears have been found to signal both helplessness and honesty, the interplay of these effects might result in no overall effect of tears on perceptions of competence. The present findings suggest that the link between emotional tears and perceived competence is highly context dependent.

Keywords: emotional crying, emotional tears, competence, social perception, culture

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Both everyday experience and scientific research show that the adaptive role of emotional tears goes far beyond their intrapersonal functions (Gračanin et al., 2018; Vingerhoets et al., 2000). Studies demonstrated that tears act as a social glue that bonds individuals together by fostering approach tendencies and eliciting the intention to support the crier (van de Ven et al., 2017; Vingerhoets et al., 2016; Zickfeld et al., 2021). This interpersonal function of

tears is driven by their impact on social perception. Specifically, tears have a positive effect on perceived warmth of the crier (van de Ven et al., 2017; Zickfeld et al., 2021; Zickfeld & Schubert, 2018), a universal dimension of person perception that is intrinsically linked to human bonding, rapport, and affiliation (Fiske et al., 1999).

A large body of research and theory shows that, when forming impressions of others, observers rely not only on the warmth dimension (i.e., how much they like the target person) but also on the competence dimension (i.e., how much they respect the target person). Competence is defined by such traits as intelligence, skillfulness, and efficiency and refers to the individual's capacity to act effectively in a situation (Fiske, 2018). The two evaluative dimensions appear in many, partly overlapping, theories under different names (e.g., *communion* and *agency*; *getting along* and *getting ahead*; see Abele et al., 2021, for a review of theoretical models) and account for over 80% of the variance in perceptions of everyday social behaviors (Fiske et al., 2007). Yet, although the positive effect of tears on perceived warmth turned out to be robust (Zickfeld et al., 2021; Zickfeld et al., 2018), the effect of tears on perceived competence is much less clear.

Being in tears may suggest to others that the crier is unable to manage their emotions or deal with the situation they face (Miceli & Castelfranchi, 2003). Thus, it seems likely that tearful individuals may indeed be perceived as relatively incompetent. However,

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All materials (except for the main stimuli), data, analysis scripts, and the preregistration can be accessed at <https://osf.io/tue7c/> and <https://osf.io/fj9bd/>.

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evidence regarding the influence of tears on perceived competence has been mixed. van de Ven et al. (2017) found that tearful faces were perceived as less competent than the same faces with tears digitally removed. Recent studies, though, failed to replicate this result (Zickfeld & Schubert, 2018), with some even finding a positive effect of tears on perceived competence (Bobowik et al., 2020), while others concluded that there might be an effect for some stimulus faces but not a general effect (Zickfeld et al., 2018). These discrepancies suggest that the occurrence of tears may reduce perceived competence only in specific circumstances and highlight the need to further investigate the boundary conditions of this effect. Here, we address this need by investigating whether tears influence perceived competence and under what conditions. We test a set of a priori hypotheses and augment this with an exploratory test using machine learning methods to identify other possible moderators for the effect of tears on perceived competence. For these analyses, we use an openly available dataset of responses to tearful faces from 7,007 respondents collected in 41 countries by the Cross-Cultural Tears Project (Zickfeld et al., 2021).

Tears, Helplessness, and Perceived Competence

The positive effect of tears on perceived warmth has been well established in the literature (van de Ven et al., 2017; Zickfeld & Schubert, 2018; Zickfeld et al., 2018) and recently replicated across 41 countries (Zickfeld et al., 2021). Importantly, the effect holds regardless of the methodology used (e.g., study design, the number and type of stimuli). Similar analyses regarding the effect of tears on perceived competence present a much less coherent picture. Zickfeld et al. (2018) found that this effect may be specific to the stimuli used in a study. When the authors relied on a limited number of pictures originally used by van de Ven et al. (2017), the negative effect of tears on perceived competence was replicated. However, when the variation in stimulus material was increased, the effect became substantially smaller and statistically nonsignificant, which calls into question its robustness and generalizability. The authors concluded that without further study, the effect of competence should be thought not to exist. Adding to this mixed literature, Bobowik and colleagues (2020) found across three studies that presenting pictures of crying ingroup or outgroup members (in contrast to targets expressing sadness without tears) might even increase competence ratings. We conducted a nonsystematic random-effects meta-analysis based on all the above mentioned studies (Bobowik et al., 2020; van de Ven et al., 2017; Zickfeld & Schubert, 2018; Zickfeld et al., 2018) and found an overall effect size of $d = -15$, 95% CI [-.29, -.01], with tearful individuals being perceived as less competent than nontearful targets. Importantly, the observed heterogeneity was quite high ($I^2 = 91.14$, 95% CI [79.60, 98.01]) with effect sizes ranging from negative to positive (see online supplementary material). This variance highlights the need for the current investigation, exploring under which circumstances emotional tears influence perceptions of competence.

The lack of consistent evidence for the link between tears and perceived competence may seem counterintuitive because tears signal helplessness (Stadel et al., 2019; Vingerhoets et al., 2016), which is similar to incompetence as it indicates that a person is unable to achieve their purpose and/or take control over the situation (Wallston, 2002). Put differently, helplessness may suggest that the person lacks competence (e.g., knowledge, abilities, or

skills) required to handle the problem head-on or keep their emotions and behavior under control (Miceli & Castelfranchi, 2003; Vingerhoets & Bylsma, 2007). In line with this reasoning, van de Ven et al. (2017) argued that a tearful person is seen as being helpless and, as a result, less competent. This hypothesis was based on the idea that, due to the fundamental attribution error (Ross, 1977), people tend to overgeneralize a situational effect (crying) to a more stable personality characteristic (reduced competence). In other words, although crying can have clear situational causes, people tend to attribute this behavior of others too much to traits and too little to the situation. In line with this hypothesis, it was found that tears indeed reduced perceived competence and this effect was mediated by perceived sadness (van de Ven et al., 2017; Zickfeld et al., 2018), an emotion that is closely associated with helplessness (Sassenrath et al., 2017; Vingerhoets et al., 2016).

On the other hand, there exists evidence that displays of sadness can be perceived as signaling competence if the expressed emotions are evaluated as both authentic and under control, which has been labeled *passionate restraint* (Zawadzki et al., 2013). Indeed, emotional tears have been argued to represent authentic and sincere signals of felt emotions (Picó et al., 2020). Moreover, in contrast to more intense forms of crying (e.g., sobbing or wailing), they indicate that the crier's expressed emotion is not overwhelming (Zawadzki et al., 2013). This restrained nature of emotional tears might be one reason why previous studies have failed to find an overall reduction in competence for tearful individuals.

In the current project, we reexamine the link between tears and competence using a large dataset, which allows us to test for possible antecedents and moderators of the effect. The responses are also given to a large and diverse set of stimuli, and by a large and diverse set of respondents (Zickfeld et al., 2021). This allows us to increase the generalizability of the findings across, for example, cultures and also allows the potential to identify moderators related to target and observer characteristics. Our aim is to resolve discrepancies of previous findings by providing a more reliable and valid assessment of whether emotional tears reduce perceived competence. Drawing upon previous studies (van de Ven et al., 2017; Zickfeld & Schubert, 2018; Zickfeld et al., 2018), we formulated two competing hypotheses regarding the main effect of tears on perceived competence:

H1₀: There is no effect of emotional tears on perceived competence.

H1_a: There is an effect of emotional tears on perceived competence. Tearful targets are rated as less competent than their nontearful counterparts.

In addition, based on the idea that a tearful person is seen as being helpless (Vingerhoets et al., 2016), as well as previous studies that found perceived sadness to mediate the negative effect of tears on perceived competence (van de Ven et al., 2017; Zickfeld et al., 2018), we were interested in testing whether perceived helplessness (i.e., a variable closely related to sadness) also mediates this effect:

H2: The effect of tears on perceived competence is mediated by perceived helplessness. Tearful targets are perceived as more helpless, which in turn is associated with reduced competence.

Situational Valence and Perceived Appropriateness

As already mentioned, the lack of consistent evidence for the effect of tears on perceived competence suggests that this effect may be limited to specific circumstances. For instance, most people avoid crying in the presence of others, especially strangers, because tears shed in public may be seen as inappropriate (Vingerhoets, 2013). This refers in particular to the contexts that are by default unemotional, and thus, crying in such contexts is uncommon or unexpected. An illustrative example of such a context is the work setting. Studies show that crying at work may be considered inappropriate and associated with negative evaluation of the crier in terms of competence and competence-related characteristics (Elsbach & Bechky, 2018; Fischer et al., 2013; Janssens et al., 2019). For instance, Elsbach and Bechky (2018) demonstrated that women crying in professional work settings were perceived as emotionally unstable and unprofessional because they were expected to suppress their emotions and refrain from behaviors that may interfere with work.

These results show that tears may be associated with decreased competence when shed in contexts in which crying is regarded as inappropriate. We think that this may apply not only to work-related situations but also to more general situations in which, similar to work settings, people are not expected to behave emotionally. Accordingly, tears that occur in situations that are relatively unemotional or neutral will be perceived as less appropriate than tears that occur in more emotional situations. This, in turn, should reduce perceived competence. The first part of this reasoning has recently been supported by Zickfeld et al. (2021), who demonstrated that perceived appropriateness was higher when a) people showed tears in emotionally laden situations and b) did not show tears in neutral situations. Indirect support for the second part (appropriateness of tears affects perceived competence) was provided by Zawadzki et al. (2013). The authors found that in sadness-evoking situations, individuals who displayed visible yet subtle tears were rated as *more* competent than those who either openly expressed or completely suppressed their sadness. This, as noted by the authors, may be related to the fact that in emotional contexts, authentic and controlled emotional expressions are often regarded as more appropriate than under- or overcontrolled emotional signals. In line with this reasoning, tears signal competence as long as they are perceived as appropriate. We think that this should refer to tears shed not only in negative but also positive situations because emotionally driven tears may be related to a variety of both negative and positive emotions (Zickfeld et al., 2020). Based on these findings, we expect that:

H3: The effect of tears as moderated by situational valence is mediated by perceived appropriateness. Showing tears in neutral (as compared to both positive and negative) situations leads to less perceived appropriateness, which is in turn associated with decreased perceived competence.

Target Gender

Judgments of appropriateness may depend on the gender of the person shedding tears (Warner & Shields, 2007). In general, men are considered less emotional and more in control of their feelings than women (Plant et al., 2000). Therefore, in situations

in which tears are regarded as inappropriate, crying men may be perceived as too feminine or too emotional, which in turn, may reduce their perceived competence. A study by Fischer et al. (2013) corroborates this line of thinking, by showing that in a work context, tearful men were perceived as less competent than tearful women and this effect was mediated by perceived emotionality.

The perception of crying men and women, however, may change in emotionally laden situations. Here, competence is attributed to emotions displayed with passionate restraint rather than emotions that are overcontrolled (Shields, 2002; Zawadzki et al., 2013). Shields (2002) claims that passionate restraint should be regarded as a signal of competence for both genders. However, two studies by Hess and colleagues (2016) suggest that the positive effect of passionate restraint on perceived competence may hold only for men because in men, restrained emotional expressions are appreciated as more authentic and more appropriate. For women, the opposite was found, that is, women whose emotions were restrained (i.e., expressed with a delay) were perceived as less authentic and less competent than women who reacted in a less controlled manner. Based on these findings and the assumption that in emotional context, tears qualify as restrained emotional displays (MacArthur & Shields, 2015; Zawadzki et al., 2013), we predict that:

H4: The effect of tears on perceived competence is moderated by the interaction of situational valence and target gender. In positive and negative situations, tearful faces are perceived as more competent than nontearful faces, and this effect is more pronounced for male than female targets.

Other Variables Influencing Perceived Competence

Apart from the variables mentioned above, there are many other factors that may potentially influence the perception of competence. The database collected by the Cross-Cultural Tears Project (Zickfeld et al., 2021) includes over 50 individual, situational, and cultural variables that may possibly affect perceived competence (see Table 1). The literature, however, does not point us toward additional specific hypotheses concerning these effects. Therefore, we investigate in an exploratory fashion whether any of these factors contribute to or moderate the effects of tears on perceived competence.

The Present Project

For the present project, we analyze the data collected by the Cross-Cultural Tears Project (Zickfeld et al., 2021). The project was the joint effort of 56 labs investigating the social impact of emotional tears across 41 countries from all populated continents. Our analyses were divided into a *confirmatory part*, the aim of which was to replicate previous findings by testing the hypotheses outlined above (H1-H4), and an *exploratory part* focusing on possible variables influencing perceptions of competence. For the exploratory part, we employ a supervised machine learning approach (random forests; e.g., Ijzerman et al., 2018) in order to explore what type of variable or combination of variables best predicts perceived competence. All of our analyses and hypotheses were registered before conducting analyses on the effect of tears on perceived competence

Table 1
Variables Included in the Dataset Collected by the Cross-Cultural Tears Project

Cultural variables ^a	Situational variables	Observer specific variables	Target specific variables	Target evaluation by observer variables
Historical heterogeneity of migration	Occurrence of tears (tears vs. no tears)	Gender (female, male, other)	Gender (female, male) "Ethnicity"	Support intentions <i>Be there if needed</i>
Population density (pop/km ²)	Situational valence	Age	Age	<i>Express acceptance</i>
Urban population	(neutral, positive, negative reasons for crying)	Nationality	Facial features	<i>Offer support</i>
Relational mobility	Social context (private vs. public)	Children (number of children)	(only available for pictures taken from the Chicago Face Database)	Perceived appropriateness
Life expectancy at birth		Employment	Face shape	Perceived competence (Main DV)
Employment in agriculture		Trait empathic concern (IRI; Davis, 1980)	Head shapeness	<i>Competent</i>
Education (Expected years of schooling)			Nose shape	<i>Capable</i>
Gender inequality Index (GII)			Lip fullness	Perceived Warmth
Human Development Index (HDI)			Eye shape	<i>Warm</i>
Subjective Well Being (SWB)			Eye size	<i>Friendly</i>
Social support			Upper head length	Perceived honesty
Pathogen prevalence			Midface length	<i>Honest</i>
Climate demandingness			Chin length	<i>Reliable</i>
Gini Index (GINI)			Forehead height	Perceived dominance
GDP per capita (PPP)			Cheekbone height	Perceived attractiveness
Multidimensional Poverty Index			Cheekbone prominence	Perceived
Religiosity			Face roundness	Helplessness
Cultural Tightness Looseness (CTL)			Facial Width to Height Ratio (fWHR)	<i>Helpless</i>
Individualism (IND)				<i>Overwhelmed</i>
Masculinity (MAL)				<i>Sad</i>
Uncertainty Avoidance (UA)				Perceived connectedness (IOS)
Long Term Orientation (LTO)				Felt touched/Moved
Indulgence (ID) extraversion				Other emotions ^b
Agreeableness				State empathic concern
Conscientiousness				<i>Compassionate</i>
Neuroticism				<i>Softhearted</i>
Openness				State personal distress
Humane orientation				<i>Upset</i>
In-group collectivism				<i>Disturbed</i>
Power Distance (PD)				Group identification
Trust				Perceived negativity
				Perceived positivity

Note. Items in italic are averaged to calculate the respective score of the construct. All measures in the target evaluation by observer variables were assessed on a 7-point scale from 0 to 6. The trait empathic concern scale was completed on a 5-point scale from 0 to 4. Target evaluation by observer variables are presented in the order they appeared.

^a Detailed information on each variable can be found here: <https://osf.io/48qjm/>.

^b We do not include measures on other emotions as reported in Zickfeld et al. (2021) as they were made on a dichotomous scale.

(the preregistration is available at <https://osf.io/tue7c/>).¹ Each lab contributing to the Cross-Cultural Tears Project received ethical approval from their local Institutional Review Board or stated explicitly that the study was exempt. Participants indicated their informed consent before taking the study. All data and materials (except for the tearful pictures) are publicly available at <https://osf.io/fj9bd/>.

Method

Participants

We employed data collected by the Cross-Cultural Tears Project (Zickfeld et al., 2021). After excluding participants based on the criteria described in Zickfeld et al. (2021), the final dataset contains responses from 7,007 individuals (4,474 women, 1,975 men, 45 other) aged between 18 and 79 years ($M = 28.08$, $SD = 10.89$). The number of participants recruited by each lab and other recruitment details can be found in Zickfeld et al. (2021; Table 1).

Materials and Procedure

All labs used the same within-participants design and procedure. Each participant was exposed to pictures of four targets (two tearful and two nontearful in individual random order) randomly selected from a total pool of 100 different faces. The pictures of tearful faces were created by digitally adding tears to the pictures of nontearful faces taken from the Chicago Face Database (Ma et al., 2015) and the Bogazici database (Saribay et al., 2018). The databases included male and female targets representing five 'ethnic' groups (Black, Asian, Latinx, Middle East, White). Each picture was presented with a short statement regarding the valence of the situation the

¹ The last two authors had access to the data before the preregistration as they coordinated the multi-lab project presented in Zickfeld et al. (2021). Importantly, the first two authors drafted the main hypotheses independently before having access to the data. Further, Zickfeld et al. (2021) does not report any analysis including the competence items and we did not have a look at these variables before preregistering the hypotheses and analyses.

target was in (positive, negative, or neutral), and the social context (public or private). The statements referring to positive and negative situations described emotionally laden events, for instance, 'As the picture was taken [the target] finally reunited with a loved one she had not seen for many years at her home.' or 'As the picture was taken [the target] met his romantic partner at a café who told him that she would like to end their relationship.' The statements referring to neutral situations depicted everyday, mundane activities, for instance, 'As the picture was taken [the target] went grocery shopping at a store.' These situations were validated in a pilot study and the target in each situation was represented by one out of four initials randomly chosen for each target.

Following exposure to each target, participants completed a set of measures referring to their perception of the target (intention to support the target; appropriateness of the target's expression; the target's warmth, competence, honesty, dominance, attractiveness, and helplessness; perceived connection with the target [using the inclusion-of-the-other-in-the-self scale], and whether the target felt touched and moved or showed other emotions [from a list including *joy*, *pride*, *disgust*, *fear*, *surprise*, *no emotion/neutral*, and *other*], see Table 1). Participants also rated their own empathic reactions toward the target (state empathic concern and state personal distress), completed a measure on how much they identified the target as part of their social group, and as how positive or negative they perceived they target felt. Having completed these measures for all four targets, they filled in a questionnaire measuring their trait empathic concern (Davis, 1980) and provided demographic information. All measures were completed on a 7-point scale from 0 to 6, except for the trait empathic concern measures that were presented on a 5-point scale. Our main dependent variable, that is, perceived competence was assessed by averaging responses to two questions about how *competent* and *capable* participants thought the person in the picture was ($r = .76$).

Apart from the variables collected directly during the study, the dataset contains 32 country-level indicators that refer to cultural characteristics of the countries included in the project as well as target-specific indices based on the picture databases (e.g., facial features of the individuals presented in the pictures). The list of all variables is given in Table 1 and a more detailed description is provided in Zickfeld et al. (2021) or given at <https://osf.io/d3wsr/>.

Results

Analysis Strategy

We employed R (4.3; R Core Team, 2018) for all analyses. For the confirmatory analyses, we set our alpha level at .05. We employed multilevel models using the lme4 package (Version 1.1–25; Bates et al., 2015) reporting unstandardized coefficients B , standardized coefficients d , and 95% confidence intervals based on sjPlot package (Version 2.8.6; Lüdtke, 2021). Following Zickfeld et al. (2021), we included individuals nested in country and stimuli nested in ethnic group as random effects for all multilevel models and allowed their intercepts to vary randomly. In case models did not converge, we employed the Nelder Mead optimization. In addition, we conducted a random-effects meta-analysis to

estimate heterogeneity and visualize effects sizes across countries using the *metafor* package (Version 2.4–0; Viechtbauer, 2010). Finally, just like the previous study using this dataset (Zickfeld et al., 2021), we set our smallest effect size of interest (SESOI) at $d = -.20$ for the effect of tears on competence. As a main reason for setting the SESOI, we followed Zickfeld et al. (2021) arguing that any possible downstream effect of competence perceptions on subsequent behavior (e.g., avoidance reactions) would likely be even smaller and therefore of little practical interest if the competence effect was significantly smaller than $d = -.20$. In addition, recent reviews of average effect sizes published in social psychology identified effects of around $d = \pm .20$ at the lower percentiles (Lovakov & Agadullina, 2021). Similarly, meta-analyzing previous studies on the effect of tears on perceived competence suggested $d = -.20$ as a plausible effect size. We performed equivalence testing comparing our effect size against the SESOI using the *TOSTER* package (Version 3.4; Lakens, 2017).

For the exploratory part, we employed a supervised machine learning algorithm using conditional random forests (Breiman, 2001; Ijzerman et al., 2018). To conduct random forests, we used the randomForest (Version 4.6–14; Liaw & Wiener, 2002), randomForestExplainer (Version 0.10.1; Paluszynska et al., 2020), lattice (Version 0.20–41; Sarkar, 2008), tree (Version 1.0–40; Ripley & Ripley, 2016), and party (Version 1.3–6; Hothorn et al., 2010) packages. Random forests offer several strengths compared to classical regression approaches. They are nonparametric, can include higher order interactions, do not make assumptions about the direction of effects, and are less prone to problems of multicollinearity. Therefore, they are especially useful in situations where researchers want to explore the influence of a high number of predictors on a certain outcome, as in the present study. Random forests plant a *forest* of several regression *trees*. The method relies on *bagging* (Breiman, 2001), a process in which the data is repeatedly sampled and split to form test and training data sets. At each split a specific number of predictor variables are randomly selected (*mtry*) and test data sets are used to quantify the predictive power based on the training data sets. These processes are aggregated, and the analysis derives a measure of variable importance for each predictor, indicating how likely the variable would predict the outcome.

We applied the same data transformations and score calculations as in Zickfeld et al. (2021). The reliability of the two items (*competent* and *capable*) that measured our main outcome variable *perceived competence* was good at $r = .76$; see online supplementary material for reliabilities per country. For the main analyses, factors were coded using effects coding.

Confirmatory Analyses

H1. The Effect of Emotional Tears on Perceived Competence

We ran a multilevel model using perceived competence as the dependent variable, occurrence of tears ($-.5$: no tears, $.5$: tears) as the predictor, and random effects as specified earlier. An overview of the fixed and random effects is presented in Table 2. We observed a statistically significant main effect of occurrence of tears on perceived competence. Ratings of perceived competence were smaller when targets shed tears ($M = 3.19$, $SE = .07$) in comparison to no tears

Table 2
Overview of Multilevel Models in H1 and H4 Predicting Perceived Competence

Predictors	Contrasts	B [95% CI]	β [95% CI]	p
Model H1				
(Intercept)		3.27 [3.14, 3.40]	.03 [-.07, .13]	<.001
Occurrence of tears (OT)		-.16 [-.18, -.13]	-.12 [-.14, -.10]	<.001
Model H4				
(Intercept)		3.27 [3.14, 3.39]	.02 [-.07, .12]	<.001
Occurrence of tears (OT)		-.17 [-.19, -.14]	-.13 [-.15, -.11]	<.001
Situational valence (SV)	Contrast A	.14 [.11, .16]	.10 [.08, .13]	<.001
	Contrast B	-.09 [-.13, -.06]	-.07 [-.10, -.05]	<.001
Target gender (TG)		.11 [.05, .17]	.09 [.04, .13]	<.001
OT \times SV	Contrast A	.63 [.58, .69]	.49 [.44, .53]	<.001
	Contrast B	-.06 [-.12, .01]	-.04 [-.09, .01]	.083
OT \times TG		-.07 [-.13, -.02]	-.06 [-.10, -.02]	.006
SV \times TG	Contrast A	.03 [-.03, .09]	.02 [-.02, .07]	.305
	Contrast B	.05 [-.01, .12]	.04 [-.01, .09]	.118
OT \times SV \times TG	Contrast A	-.03 [-.14, .09]	-.02 [-.11, .07]	.654
	Contrast B	-.14 [-.27, -.01]	-.11 [-.20, -.01]	.033
Random effects				
	H1	H4		
σ^2	.91	.89		
τ_{00} ID:Country	.65	.65		
τ_{00} Stimulus:Ethnicity	.02	.02		
τ_{00} Country	.10	.10		
τ_{00} Ethnicity	.01	.01		
ICC	.46	.47		
N_{ID}	6,971	6,971		
$N_{Country}$	41	41		
$N_{Stimulus}$	100	100		
$N_{Ethnicity}$	5	5		
Observations	24,731	24,731		
R2 (marg./cond.)	.004/.462	.022/.480		

Note. ICC = intraclass correlation coefficient. Occurrence of tears (-.5: no tears, .5: tears); Situational valence (contrast A: .33: negative, -.66: neutral, .33: positive; contrast B: -.50: negative, 0: neutral, .50: positive); Target gender (-.5: male, .5: female).

($M = 3.35$, $SE = .07$, $d = -.12$, 95% CI [-.14, -.10]).² We then proceeded to perform equivalence tests of the obtained effect and compared it against our SESOI of $d = -.20$. We found a statistically significant effect of tears on perceived competence, but this effect was significantly smaller than our SESOI. Therefore, these analyses provided support for H1₀: We did not observe evidence for a meaningful main effect of emotional tears on perceived competence.

H2. Perceived Helplessness Mediates the Effect of Emotional Tears on Perceived Competence

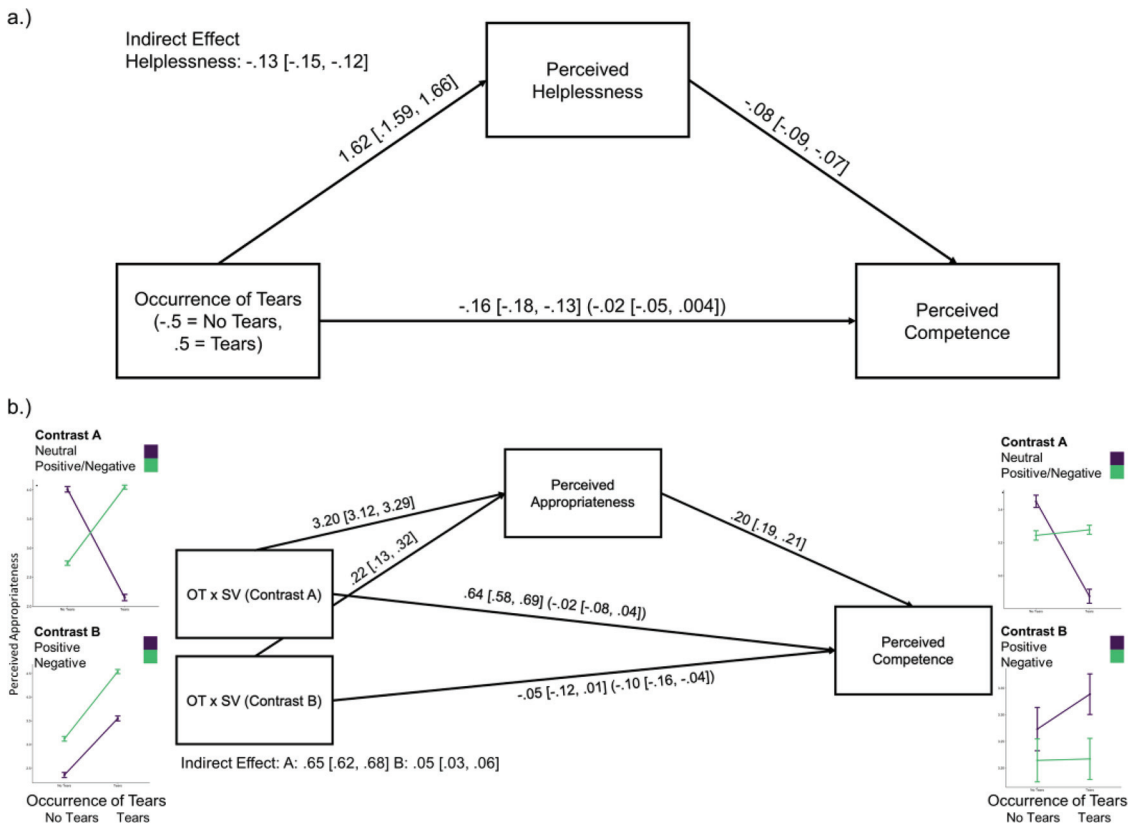
Following Zickfeld et al. (2021), we tested the mediation by perceived helplessness by setting up three separate multilevel models. In the first model, we regressed perceived helplessness (mediator) on occurrence of tears (predictor) estimating path a. In the second model, we regressed perceived competence (outcome) on perceived helplessness and occurrence of tears, estimating path b and c'. In the third model, we performed the same model as in H1, estimating path c. We employed a Monte-Carlo simulation to estimate confidence intervals for the indirect effect (Falk & Biesanz, 2016). An overview of the results is provided in Figure 1. We observed a significant indirect effect via perceived helplessness, $B = -.13$, 95% CI [-.15, -.12]. When exploring this effect across countries, we observed little systematic variation (see online supplementary material). These findings provide support for H2: Emotional tears are able to reduce perceived competence via perceived helplessness. Still, the effect is rather small.

H3. Perceived Appropriateness Mediates the Interaction Effect Between Occurrence of Tears and Situational Valence on Perceived Competence

Similar to Zickfeld et al. (2021), we performed a mediation model as in H2 using the interaction effect between occurrence of tears and situational valence as the independent variable, perceived appropriateness as the mediator, and perceived competence as the outcome. For the first model, we included the interaction between occurrence of tears and situational valence, as well as the main effects. We focused on two main contrasts for the interaction effect. Contrast A compared the neutral situations (-.66) with the positive (.33) and negative (.33) situations. Contrast B compared the positive (-.5) with the negative (.5) situations. An overview of the mediation process is provided in Figure 1. We observed a significant indirect effect for both contrasts. Shedding tears in negative and positive situations was associated with increased perceived appropriateness (in contrast to shedding tears in neutral situations), which in turn was associated with increased competence ($B = .65$, 95% CI [.62, .68]). In other words, if we look closely at the interaction, it appears that it is the tears that are shed in neutral

² We also performed a meta-analysis of the individual country effects and observed a similar effect size. Effect sizes were rather similar across countries, though substantially stronger in the case of the United Arab Emirates (see online supplementary material).

Figure 1
Overview of Mediation Models in H2 (A) and H3 (B)



Note. Numbers represent unstandardized coefficients. Values in brackets refer to the direct effect when controlling for the mediator. OT = occurrence of tears; SV = situational valence. See the online article for the color version of this figure.

situations that created a perception that the crier was less competent, because these tears were seen as less appropriate.

Furthermore, shedding tears in negative situations (in comparison to positive situations) was seen as slightly more appropriate as indicated by the interaction of contrast B on perceived appropriateness (see Figure 1), and appropriateness was associated with increased perceived competence (indirect effect: $B = .05$, 95% CI [.03, .06]). Importantly, the indirect effect of contrast B was substantially smaller than that of contrast A, so it should be interpreted with caution. Note that, the direct effect of contrast B on perceived competence was statistically significant when including perceived appropriateness as a mediator ($B = -.10$, 95% CI [-.16, -.04]), suggesting a suppression effect or inconsistent mediation (MacKinnon et al., 2000). Shedding tears (in contrast to no tears) increased competence ratings for positive situations (compared to negative situations) and this effect was stronger when including perceived appropriateness in the model as a mediator (which thus worked as a suppressor).

H4. Moderation by Target Gender

We repeated the first model in H4 adding target gender (-.5 male, .5 female) and the three-way interaction between occurrence of tears, situational valence, and target gender. An overview of the model is provided in Table 2. We did not observe evidence for a

significant three-way interaction for the first contrast (comparing neutral with positive and negative situations), thereby providing no support for H4 (see Figure 2). Overall, shedding tears in a neutral situation strongly decreased perceived competence ratings for both male and female targets (overall $d = -.48$, 95% CI [-.57, -.39]). We observed a statistically significant three-way interaction with the second situational valence contrast (comparing positive with negative situations). Shedding tears in positive and negative situations showed a small significant increase for males, while this increase in perceived competence was only observed for the positive situations for females. In contrast to male targets, perceived competence was reduced for female targets in negative situations, though this effect was small and not statistically significant. Focusing on the overall effects of shedding tears on positive and negative situations revealed small effects (positive: $d = .05$, 95% CI [.01, .09]; negative: $d = .004$, 95% CI [-.04, .05]) that were significantly smaller than the smallest effect size of interest we had set a-priori.

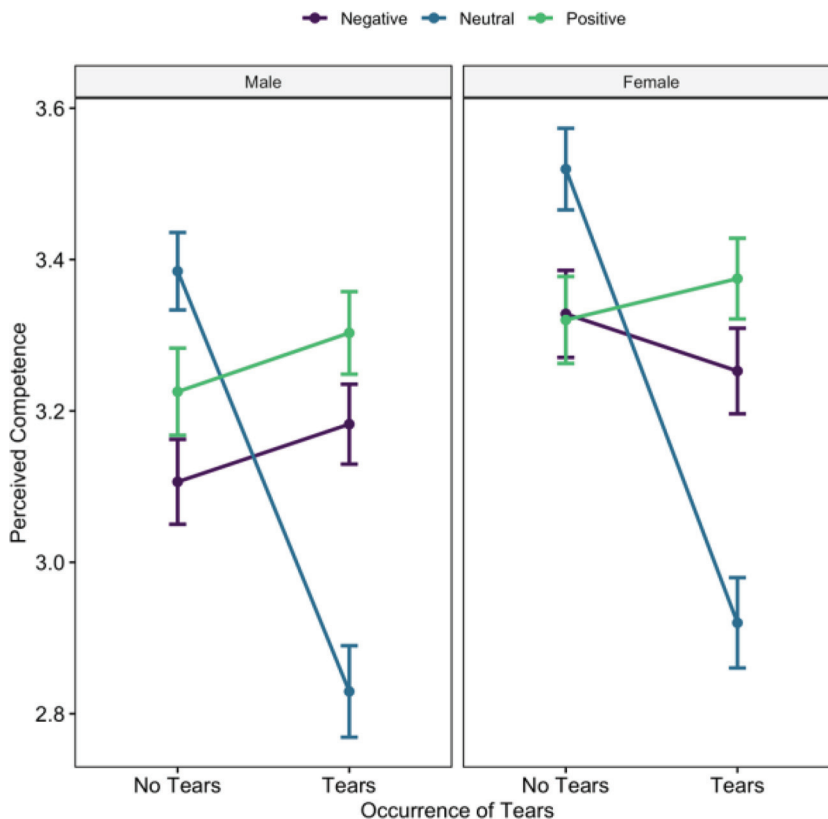
Exploratory Analyses

Predicting Competence Ratings Using Random Forests

We employed random forests in order to assess important variables (and their interaction with occurrence of tears) that would

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Figure 2
Overview of Three-Way Interaction Among Occurrence of Tears, Situational Valence, and Target Gender on Perceived Competence



Note. Error bars represent 95% confidence intervals. See the online article for the color version of this figure.

predict competence ratings. Using a split-half validation, we randomly created a *training* and *test* dataset by splitting the full dataset in half. We performed a random forest analysis on the training dataset. Perceived competence was used as the outcome and all variables summarized in Table 1 (except for the items asking for *other emotions*) were added as predictors. If single items were averaged into a score, we always used the average score and did not include the individual items. Moreover, we added a variable related to the experiment, including the order in which targets were presented. In total, we added 75 predictor variables. Based on previous recommendations (Ijzerman et al., 2018), we set the *mtry* (the number of variables included at each split) to the square root of the number of total variables. We repeated two models with *mtry* = 8 at two different seeds and ran two models with *mtry* = 9 at different seeds. The number of trees was set to 1000. Spearman correlations among these models were high (.984 – .989), indicating high reliability. An overview of the variable importance is provided in Figure 3. We observed that variable importance in predicting perceived competence ratings was highest for the following ten variables: perceived honesty, perceived dominance, perceived warmth, perceived attractiveness, intentions to support, country, perceived positivity, perceived helplessness, group identification, and perceived appropriateness. Occurrence of

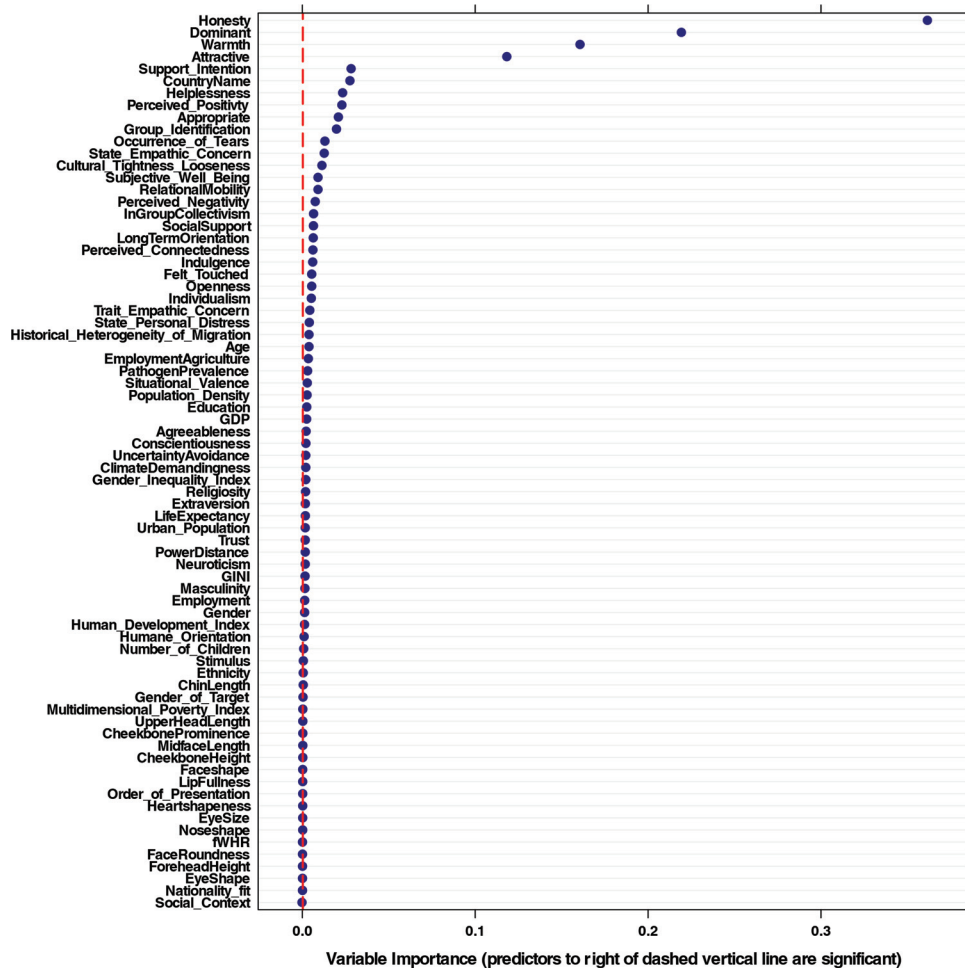
tears was the 11th most important variable, showing a similar variable importance as country-level cultural-tightness-looseness or state empathic concern.

Further, we explored possible interactions fitting a random forest model with *mtry* = 8 and *ntree* = 300 (to reduce computational time) using the *randomForestExplainer* package. Among the 30 most frequent interactions, we did not observe any occurrence of an interaction with occurrence of tears. The most important interactions predicting perceived competence were either among the most important variables identified in the random forest analysis or at least involving one of these variables. For example, the Perceived Honesty × Perceived Dominance and the Perceived Warmth × Perceived Dominance interactions showed the highest importance (see Supplementary Figure 6).

Mediation by Perceived Honesty

Based on the findings of the random forest analysis, we explored whether perceived honesty mediated the effect of tears on perceived competence. Using the test dataset, we employed the same models as described in H2 with perceived honesty as the mediator. We observed a significant indirect effect that was stronger than the indirect effect via perceived helplessness ($B = .24$, 95% CI [.22, .27]). Tears were associated with increased perceived honesty, which was

Figure 3
Variable Importance for Predictors in the Random Forest Model ($mtry = 8$)



Note. See the online article for the color version of this figure.

in turn associated with an increase in competence ratings (see Figure 4). We observed little variation for the indirect effect across countries (see online supplementary material). Controlling for perceived honesty increased the effect of the occurrence of tears on perceived competence, suggesting a suppression effect.

Discussion

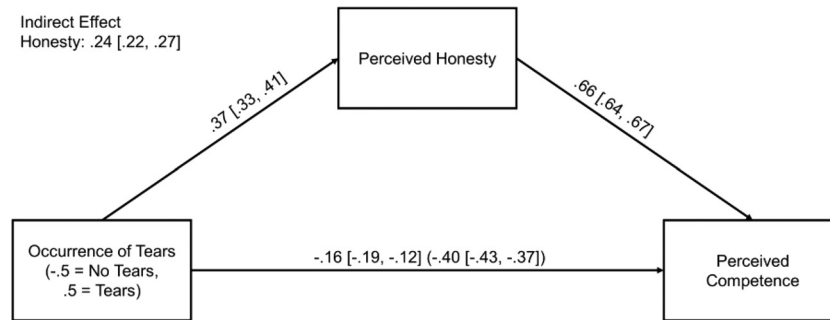
The aim of the current project was to reconcile inconsistent findings on the influence of tears on perceived competence by providing the most comprehensive analysis of this effect to date. Using a large, openly available dataset collected across 41 different countries and 7,007 participants, we found no convincing evidence that individuals shedding tears are perceived as less competent than individuals showing no tears (that is, the effect was significantly lower than the smallest effect size of interest [SESOI] we had a priori set at $d = -.20$). Our findings thus converge with the notion that tears have no general effect on perceptions of competence but rather influence competence in specific circumstances (van de Ven et al., 2017; Zickfeld et al., 2018).

Situational Mediators of the Tears-Competence Relationship

Perceived Inappropriateness

In line with the reasoning presented above, we found that tearful individuals were perceived as more incompetent when their tears were regarded as inappropriate. Such a perception of inappropriateness arose in our study when tearful faces were evaluated in neutral, unemotional situations. Neutral situations do not give a clear reason why a person is crying and are therefore social contexts in which one normally is not expected to cry. Of course, it does not mean that when tears are shed in a neutral situation the reason for crying does not exist. For example, when someone is crying while doing the laundry it could well be that they are sad as they remember a loved one that has passed away. However, if that reason is not clearly present in the situation, observers may think that this particular situation is not appropriate for shedding tears and the crying person may be judged as unable to restrain their emotions. This, in turn, may reduce perceived competence. Our findings thus fit with the passionate restraint hypothesis, by

Figure 4
Overview of Mediation Model



Note. Numbers represent unstandardized coefficients. Values in brackets refer to the direct effect when controlling for the mediator.

showing that tears reduce competence when shed in situations that are considered as inappropriate for crying (Hess et al., 2016; Zawadzki et al., 2013).

At the same time, as noted earlier in this article, the definition of inappropriateness changes in emotional (positive and negative) situations. In these situations, emotional behavior is common and expected, and thus “passionately restrained” emotional displays are considered more appropriate than completely inexpressive faces (MacArthur & Shields, 2015; Zawadzki et al., 2013). This can explain why shedding tears in emotional situations, in contrast to crying in seemingly neutral situations, was found to be positively linked to perceived appropriateness. Additionally, we observed that shedding tears (in contrast to no tears) increased competence ratings slightly more for positive situations, but not for negative situations (where there was neither a positive nor a negative effect on perceived competence). This pattern was mainly influenced by crying female targets being rated as less competent in negative situations (while crying increased competence ratings for both male and female targets in positive situations). This finding diverges from the one reported by Hendriks et al. (2008), who found that criers were assessed more negatively when crying because of a pleasant rather than an unpleasant situation. Importantly, this study was based on written vignettes and did not manipulate actual visual tears, suggesting that caution should be applied when comparing it to the current findings. Although our findings were not expected and the effect was quite small, it is consistent with the idea that emotionally driven tears are not a homogeneous category because the valence of the situation in which tears occur may modulate their social meaning (Vingerhoets, 2013; Zickfeld et al., 2020).

We should also note that although our findings are consistent with the passionate restraint hypothesis, we did not test this hypothesis directly because the current dataset did not provide information about the intensity and authenticity of tears. Therefore, we cannot be sure whether tearful individuals were indeed perceived as showing “passionately restrained” emotional expressions. Future studies may corroborate our reasoning and provide more direct support for the applicability of the passionate restraint hypothesis to the effects of tears on perceived competence by using stimuli that would vary in the intensity and authenticity of crying.

Perceived Helplessness

The analysis of additional mechanisms behind the effect of tears on perceptions of competence also suggests that tears may be associated with reduced competence when the crier is judged as unable to keep their emotional behavior under control. More specifically, we found that tears reduced competence through perceived helplessness, a characteristic indicating that the target feels overwhelmed and cannot act effectively (Miceli & Castelfranchi, 2003; Vingerhoets & Bylsma, 2007). This result aligns with the idea that for emotional displays to be interpreted as a sign of competence, they should be passionately restrained (Zawadzki et al., 2013).

Perceived Honesty

Exploratory analyses revealed another relevant mediator of the relationship between tears and perceived competence, as we found that tears were positively linked to competence when the targets were perceived as more honest. It is likely that judging crying individuals as honest may also make them appear more authentic. In the theory on passionate restraint, such emotional authenticity of displayed feelings is a key driver of when expressed emotions are seen as a sign of competence (see also MacArthur & Shields, 2015; Warner & Shields, 2007).

It is also important to note that the effect of honesty on competence ratings was opposite to that found for helplessness, that is, tears (in contrast to no tears) increased perceived honesty, which in turn increased perceived competence. Therefore, it is possible that associating tearful individuals with both helplessness and honesty, as in the present study, canceled out the overall effect of tears on competence. Importantly, both helplessness and honesty may also elicit the tendency to approach and support the tearful target (Stadel et al., 2019; Vingerhoets et al., 2016), which may explain why tears are primarily associated with warmth, a dimension that is more fundamental to the evaluation of the target than competence (Abele & Wojciszke, 2007; Fiske et al., 2002). Accordingly, the primacy of warmth in the impression-formation process may contribute to overlooking competence when evaluating tearful versus nontearful individuals. This may be driven by the fact that judgments of warmth are critical to the general evaluation of the target regardless of the situation, whereas judgments of

competence are more context-dependent (Abele & Wojciszke, 2007; Wojciszke et al., 1998). As a result, competence may draw attention only in contexts in which it becomes a more critical characteristic. For instance, given that status and power enhance the focus on competence (Cislak, 2013), tears may reduce perceived competence of high-status people (e.g., business leaders or politicians), while being irrelevant to perceived competence of low-status people. In addition, competence is often considered a broader dimension than warmth (Abele et al., 2021) and competence judgements can be applied to many different domains thereby forming various subdimensions, for example social competence or work-related competence. Likewise, the effect of tears on perceived competence might be more pronounced for some subdimensions but not others. As an example, previous research provided evidence that in a work context, tearful men were perceived as less competent than tearful women but similar gender differences were not observed in a relationship context (Fischer et al., 2013). The possibility that tears have a different impact on various dimensions of competence converges with the idea that tears reduce competence only in specific circumstances but, as we did not address it directly in the current project, it should receive attention in future studies.

Gender Effects

When searching for potential moderators of the effect of tears on perceived competence, we also expected that target gender would play an important role. Drawing on studies suggesting that passionate restraint is positively related to competence only for men (Hess et al., 2016) and that especially men are seen as less competent when crying (Fischer et al., 2013), we predicted that in emotional (in contrast to neutral) situations, the positive effect of tears on perceived competence would be more pronounced for male than female targets. Our results, however, did not support this hypothesis, showing that tears shed in neutral situations strongly reduced perceived competence for both men and women. Moreover, when comparing shedding tears in positive versus negative situations, we found that for male targets, occurrence of tears slightly increased competence ratings regardless of situational valence, whereas for female targets this effect was observed only for positive situations. The size of these effects, though, was very small.

One reason why we did not find much evidence for a meaningful effect of gender may be that there is likely no double standard for men and women with respect to crying. Although there are typically double standards in the amount of competence assigned to males and females for the same performance (Foschi, 1992), there does not appear to be a double standard in the response to crying by males and females. Brooks (2011) found that male and female politicians were equally penalized for shedding tears, and in the largest study to date on this by Zickfeld et al. (2021) there were also no differences between the responses to tears by male or female targets on perceived warmth. At first sight we thus do not seem to find effects of gender on how tears are interpreted. Still, the decision on what emotional displays are appropriate for men and women may be more nuanced. For instance, in Hess et al. (2016) studies passionate restraint was operationalized as a short delay before the emotion was shown, whereas tears presented in still pictures may be regarded as passionately restrained for a

different reason, that is, their sincere nature and limited flow (MacArthur & Shields, 2015; Warner & Shields, 2007; Zawadzki et al., 2013). Accordingly, it is possible that delaying the onset of emotional reaction may be seen as an appropriate behavior and a sign of competence for men only (as evident by Hess and colleagues' findings), whereas low intensity of expressed emotions may signal appropriateness and competence for both genders. In line with this argument, Zawadzki et al. (2013) found no gender differences in the association between passionate restraint (operationalized as visible emotion subtly expressed) and perceived competence, thereby showing that genuine and controlled emotional displays represent an appropriate behavior for both men and women (see also Shields, 2002). However, as the intensity of tears was not included in the database we used, this conclusion warrants further investigation. This seems to be an important research direction, given that the literature on the effect of target gender on the perception of crying individuals generally provides mixed evidence (for a review, see Zickfeld et al., 2021).

Cultural Differences

Overall, we found little systematic cultural differences in the current sample. The effect of tears on competence was similar across the different countries, except for the case of the United Arab Emirates. Similar patterns were observed for the indirect effects via perceived helplessness and honesty. It is possible that this finding reflects actual cultural differences—people in the United Arab Emirates associate tears with incompetence to a higher degree than members of other cultures. However, a previous study using the same dataset and testing different hypotheses found similar differences in effects for the participants from the United Arab Emirates (Zickfeld et al., 2021). Thus, this might reflect a response bias rather than actual cultural differences. We also found that country was the sixth most important predictor of competence—more important than whether targets displayed tears or not. This suggests variation in overall competence judgements across countries, while the effect of tears on these judgements was rather consistent.

Limitations

Although the present project is the first comprehensive attempt to reconcile mixed findings on the effect of emotional tears on perceptions of competence, our results are limited by the fact that we relied on a secondary data set and thus, most limitations related to the sample, measurement, or design of the original study apply to our project as well (see Zickfeld et al., 2021, for details). At the same time, the reuse of already existing data enabled us to reduce respondent burden and address research questions that were not of interest to the authors of the dataset.

The present dataset also has a major strength relating to the larger number of stimuli employed (Zickfeld et al., 2021). The null findings of the main effect emphasize and showcase not only the need for large sample sizes, but also the need for large stimuli databases in order to be able to reach more generalizable conclusions (Judd et al., 2012). As the effect of tears on competence judgements seems to be dependent on situational circumstances (see Zickfeld et al., 2018), employing a limited stimuli set can

lead to biased results if it includes little variation on important variables (e.g., perceived helplessness in the present case).

Conclusion

To conclude, we found no general effect of tears on competence ratings across different countries but observed that tears do reduce competence when the target is perceived as helpless and crying is considered inappropriate, which seems to be the case when there is no apparent reason for shedding tears (as exemplified by the neutral situations). Out of the variables included in the dataset, competence ratings turned out to be best predicted by how honest a person is perceived. Moreover, as perceived honesty was also positively linked to occurrence of tears, it seems likely that evaluating tearful individuals as both helpless (which reduces perceived competence) and more honest (which increases perceived competence) might often cancel each other's effects, while both perceived helplessness and honesty are positively associated the perceptions of warmth.

After initial mixed findings on whether shedding a tear reduced the perception of competence of the person shedding the tear, Zickfeld and colleagues (2018) ran a series of replication studies to verify whether there was such an effect or not. They found that the effect of tears on competence seemed to exist for some facial stimuli, but not for others, which led them to conclude that there was probably no effect. With our current study (with a sample of over 7,000 respondents) we feel we can answer this question more precisely: There is no likely overall effect of tears on perceived competence, but their effect does depend on the specific situation.

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