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Does the Crying Manner Affect Social Support Intentions? The Moderating Role of Unhelpful Social Beliefs About Crying

Mariko Shirai[1] and Toshiaki Kimura[2]

[1] Shinshu University, Matsumoto, Japan
[2] Kyoto Tachibana University, Kyoto, Japan

Abstract

Several studies have shown that emotional crying elicits intentions to provide social support. However, these studies have not clarified how the crying manner affects these intentions. This study examined whether differences in the crying manner influence social support intentions through impressions of the crying individual, while also accounting for context and beliefs about crying. The study focused on two types of crying: static and dynamic. An experiment was conducted with 453 Japanese participants (250 women, 203 men; mean age 41.25 years) using an eight-condition design (2 manners of crying × 2 contexts × 2 target genders), with participants randomly assigned to one of the eight conditions. Participants assessed social support intention, crying appropriateness, impressions of the crying individual (warmth, helplessness, and social connectedness), and beliefs about crying. Crying manner significantly influenced social support intentions: static crying was associated with higher social support intentions, an effect mediated by perceived appropriateness and impressions of the crying individual. Furthermore, the effect of crying manner on warmth increased as unhelpful social beliefs decreased, yielding a stronger warmth-related indirect effect on social support intentions. Therefore, not only the presence or absence of crying, but also how one cries, is crucial to understanding the interpersonal function of crying.

Keywords: crying, tears, crying manner, social support intention, belief about crying

Mariko Shirai https://orcid.org/0000-0003-2650-252X
Toshiaki Kimura https://orcid.org/0000-0002-8813-8535

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✉ Mariko Shirai, Division of Psychology, Faculty of Arts, Shinshu University, 3-1-1 Asahi Matsumoto, Nagano 3908621, Japan. E-mail: *m.shirai218@gmail.com*

Introduction

Shedding tears in response to emotions, such as sadness, is called emotional crying and is considered a universal and uniquely human behavior (Becht & Vingerhoets, 2002; Vingerhoets & Bylsma, 2016). Emotional crying has two major groups of effects: intra- and inter-individual effects (Vingerhoets & Bylsma, 2016). Intra-individual effects are associated with catharsis, suggesting that crying provides a sense of relief and positively affects mood (Becht & Vingerhoets, 2002; Bylsma et al., 2008). Conversely, inter-individual effects refer to the idea that crying elicits positive responses from others and promotes social support (Zickfeld et al., 2021). This study focuses on the inter-individual effects of emotional crying.

Among the inter-individual effects of emotional crying, the elicitation of support intentions from others has been frequently reported. This is based on the social support hypothesis, which posits that crying serves as a universal social signal that promotes social connections and the intention to support others (Gračanin et al., 2018; Vingerhoets, 2013; Zickfeld et al., 2021). Numerous studies have demonstrated that crying elicits intentions to provide social support across cultures. Specifically, shedding tears increases perceptions of warmth, helplessness, and social connectedness, which, in turn, mediate higher support intentions (Zickfeld et al., 2021; Zickfeld & Wróbel, 2024). These effects are largely unaffected by the crying individual's gender or whether the context is public or private (Zickfeld et al., 2021). Additionally, perceived appropriateness of crying enhances perceptions of warmth, helplessness, and social connectedness with the crying individual (Zickfeld et al., 2021). The aforementioned findings have been demonstrated by presenting participants with scenarios in which tears were digitally added to otherwise neutral facial expressions and by examining how the presence versus absence of tears influenced inferences about the target and intentions to provide social support.

However, crying can take various forms, including vocalized crying and weeping without vocalization (Vingerhoets, 2013). Although vocal crying is reported to decrease with age (Bylsma et al., 2019), adults often still cry audibly. Additionally, studies have documented 12 distinct behavioral expressions associated with crying, including touching the eye area, blowing the nose, making sudden movements, and hiding faces (Vingerhoets, 2013).

Some studies have examined how different ways of crying affect the support intentions and perceptions of crying individuals, but the findings remain inconsistent. One line of research has focused on qualitative differences in crying styles, such as tearing up compared to sobbing, and suggests that these styles can affect perceived appropriateness (Wong et al., 2011). Another line of research has operationalized crying manner primarily in terms of intensity, reporting that crying intensity does not directly influence support intentions (Küster, 2018). Importantly, however, these two approaches capture conceptually distinct dimensions of crying. A recent review suggested that crying intensity may influence perceived appropriateness, which

consequently affects observers' emotional responses and willingness to provide support. Specifically, low-intensity crying tends to be perceived as more appropriate, potentially leading to increased sympathy and social support. Conversely, high-intensity crying is often viewed as less appropriate and genuine, potentially increasing observer discomfort and reducing the motivation to support the crier (Zickfeld & Wróbel, 2024).

However, few studies have used images of tearful faces to examine how different manners of crying affect impressions of the crier and intentions to provide social support. Furthermore, much of the existing research has relied on presenting participants with images that simply indicate the presence or absence of tears, without providing information about why the individual is crying or the broader situational context. This limitation has been noted (Fischer et al., 2013; Pico et al., 2020; Zickfeld & Schubert, 2018), leading researchers to emphasize the importance of contextual influences on the perception of crying.

To illustrate this point, studies conducted in highly specific contexts have presented photographs of individuals shedding tears along with explicit contextual information, such as scenarios involving norm violations or criminal acts (Picó et al., 2020). These studies showed that crying individuals were consistently perceived as being more sincere, honest, and remorseful than non-crying individuals, regardless of context. However, whether these favorable impressions translated into reduced punishment depended on contextual factors, such as the type of crime involved. Furthermore, prior work has also suggested associations between the crying manner and the situational contexts in which crying typically occurs. For example, loss-related crying, such as after bereavement, is typically associated with quiet, static weeping, whereas failure-related crying is more often characterized by audible, dynamic crying (Shirai et al., 2021). Consequently, people may hold context-specific expectations about crying manner, which could influence judgments of the appropriateness of crying and intentions to provide social support. Taken together, these findings suggest that crying manner is evaluated relative to situational contexts, with the perceived appropriateness of crying playing a key role in shaping impressions of the individual and intentions to provide social support.

Besides crying manner and context, beliefs about the effects of crying may also influence intentions to provide social support. This refers to an individual's perception of how crying affects mood recovery and stress relief (Sharman, Dingle, Baker, et al., 2019). For example, if someone feels refreshed after crying, they may believe that crying has a mood recovery effect. Conversely, if crying makes them feel helpless, they may perceive it as worsening their mood. To measure beliefs about crying, the Beliefs About Crying Scale (BACS) was developed (Sharman, Dingle, & Vanman, 2019). Specifically, BACS assesses beliefs about whether crying leads to positive or negative emotional outcomes in individual and interpersonal contexts. It comprises three factors: the first represents the belief that crying helps with emotion regulation when the person is alone (helpful belief); the second reflects the belief that

crying in the presence of others worsens one's mood (unhelpful social belief); and the third captures the belief that crying alone leads to a negative mood (unhelpful individual belief).

Given that beliefs about emotions shaped by past experiences influence emotional experiences and regulation strategies (Miyamoto et al., 2014), it is expected that, among the three beliefs about crying, a stronger unhelpful social belief is associated with more negative impressions of crying individuals and a lower intention to provide social support. This expectation is based on the idea that unhelpful social beliefs reflect the view that crying in social situations is perceived as ineffective for mood recovery and may be associated with shame or embarrassment. Consequently, individuals who strongly endorse such beliefs are less likely to interpret crying as a social signal that elicits support from others and are thus more likely to form negative impressions of crying individuals and report lower intentions to provide social support. Nonetheless, the impact of beliefs about crying on the elicitation of social support has yet to be systematically examined.

Therefore, this study aimed to examine whether differences in crying manner influence social support intentions through impressions of the crying individual, such as warmth, helplessness, and social connectedness, while also considering the effects of context and beliefs about crying. We posit the following six hypotheses.

First, crying manner influences social support intentions, with static crying expected to elicit higher social support intentions compared to dynamic crying (Hypothesis 1).

Second, the effect of crying manner on social support intentions is expected to interact with situational context, such that static crying has a stronger effect in loss contexts, while dynamic crying has a stronger effect in failure contexts (Hypothesis 2).

Third, the effect of crying manner on social support intentions is mediated by impressions of the crying individual (warmth, helplessness, and social connectedness) (Hypothesis 3).

Fourth, the effect of crying manner on social support intentions is expected to be sequentially mediated, first through perceived appropriateness and then subsequently through impressions of the crying individual (Hypothesis 4).

Fifth, the mediating effect of impressions of a crying individual on the relationship between crying manner and social support intentions differs between loss and failure contexts. Specifically, in the loss context, static crying is expected to enhance perceptions of appropriateness and warmth toward the crying individual, leading to higher social support intentions. In contrast, in the failure context, dynamic crying is expected to increase perceptions of helplessness, also leading to higher social support intentions (Hypothesis 5). Both warmth and helplessness have been identified as mediators of social support intentions in prior research (Zickfeld et al., 2021). However, we expected that the specific mediating impressions would vary depending on the combination of crying manner and situational context, because the perceived appropriateness of a given crying manner is likely to differ across contexts

and, in turn, shape impression formation.

Finally, the effect of crying manner on impressions of the crying individual is moderated by unhelpful social beliefs about crying. Specifically, this study proposes a moderated mediation model in which unhelpful social beliefs moderate the effect of crying manner on impressions of the crying individual, so that the indirect effect is weaker among individuals with stronger unhelpful social beliefs (Hypothesis 6). Moderation was specified only for the path from crying manner to impressions of the crying individual, based on the assumption that unhelpful social beliefs primarily shape interpersonal impressions of the crying individual rather than normative judgments regarding behavioral appropriateness.

Method

Participants

Considering the pairwise comparison, a power analysis using G*power 3.1 (Faul et al., 2009) indicated a required sample size of $N = 512$ to detect a medium effect size ($d = 0.5$) with alpha =.05 and power = .80. The initial number of participants was 723 (403 women, 308 men, 12 others), with a mean age of 41.39 years ($SD = 9.59$). Participants were native Japanese speakers recruited online through the crowdsourcing platform CrowdWorks (https://crowdworks.jp). Only participants who identified the individual in the image as crying were included in the analyses, as recognition of tears constitutes a necessary precondition for examining the interpersonal functions of emotional crying[1]. Condition-specific recognition rates are reported in the Supplementary Materials (Table S1-1). Recognition rates varied across stimulus conditions.

The analyzed sample included 457 participants (250 women, 203 men, one other, and three who chose “prefer not to say”). To include participant gender as a covariate, the final analyses were conducted with 453 participants (mean age 41.25 years, $SD = 9.48$), excluding the four individuals who selected “other” or “prefer not to say.” The dataset analyzed in the current study is available via the Open Science Framework (OSF) (https://osf.io/8x6ze/overview?view_only=49370fde45bb4aedbbbaf43901bf879d). The experimental protocol was approved by the Institutional Ethics Board of the first author’s university (No. 22042).

[1] As a robustness check, we re-estimated regression models to examine whether crying manner influenced social support intentions, including all participants and adding recognition of crying as a covariate. The results testing Hypothesis 1, 2, 3, 4 and 6 were replicated. As a result inconsistent with the main analysis, the indirect effect of crying manner on social support intentions via social connectedness was statistically significant in the test of Hypothesis 3 ($\beta = .036$, 95% CI [.021, .175]).

Image Stimuli and Crying Scenarios

The stimuli were selected based on a preliminary survey ($N = 91$, $M_{age} = 44.86$, $SD = 8.70$). In total, 12 images were created, with three images each representing static crying (tears spilling down one's cheeks) and dynamic crying (bawling loudly) for both male and female individuals. Tears were digitally added using Photoshop (Adobe Inc.). The degrees of static and dynamic crying in the images were evaluated using four static onomatopoeias (e.g., *porori porori*, which depicts tears spilling down one's cheek) and four dynamic onomatopoeias (e.g., *wān wān*, which depicts bawling loudly without caring about where one is) (Shirai et al., 2021). Among the six images, those that received the highest ratings for either static or dynamic crying and were most frequently recognized as depicting a crying individual were selected for each gender, resulting in four images used in the experiment (Figure 1).

Figure 1

Image Stimuli Used in the Present Study

Note. The images on the left represent static crying, whereas those on the right represent dynamic crying.

Scenarios depicting two sad contexts, loss and failure, were selected from the sad situations identified by Shirai and Suzuki (2013). Participants were presented with one of the following image descriptions: "At a hospital, the individual's mother has passed away" (loss scenario) or "At work, the individual has failed a promotion exam" (failure scenario).

Measures

Social Support Intention

Based on previous research (Zickfeld et al., 2021), intentions to support the crying individual were assessed using three items, rated on a seven-point scale (0 = *not at all*, 6 = *totally*): "I would be there if this person needed me," "I would express how much I accept this person," and "I would offer support to this person." The three items were averaged to obtain a single social support intention score (α = .86).

Perceived Appropriateness

To assess the appropriateness of crying, participants rated how appropriate the depicted individual's crying was using a single-item measure on a seven-point scale (0 = *not at all*, 6 = *totally*).

The Impression of a Crying Individual

Impressions of a crying individual were assessed for warmth (two items; r = .63) and helplessness (one item) (Zickfeld et al., 2021) using a seven-point scale (0 = *not at all*, 6 = *totally*). In previous studies (Zickfeld et al., 2021), helplessness was evaluated using a three-item scale: helplessness, overwhelmed, and sad. However, because the latter two items are considered to have distinct nuances in measuring helplessness itself, a single-item measure was used in this study. In addition, social connectedness (IOS scales; Aron et al., 1992), previously measured as an impression evoked by crying individuals (Zickfeld et al., 2021), was also measured using the seven-point scale.

Manipulation Check Items

To conduct a manipulation check for the stimulus images, participants rated the extent to which the images matched four static crying onomatopoeias[2] (α = .84) and four dynamic crying onomatopoeias (α = .89) (Shirai et al., 2021) using a seven-point scale (0 = *not at all*, 6 = *totally*).

Beliefs About Crying

To assess beliefs about crying, the Japanese version of the BACS (Shirai et al., 2023) was used; this is the Japanese adaptation of the original BACS (Sharman, Dingle, & Vanman, 2019), and its reliability and validity have been confirmed. As in the original scale, this version comprises three factors. This study assessed only unhelpful social beliefs. This factor comprises three items (α = .78), rated on a five-point scale (1 = *never*, 5 = *always*). Higher scores on the unhelpful social scale indicate a greater belief that crying is unhelpful in social settings.

Procedure

The experiment used an eight-condition design (2 crying manners × 2 contexts × 2 image genders), with participants randomly assigned to one of the eight conditions. Each participant viewed only one image of one gender in one context. First, participants were asked to determine whether the individual in the image was crying. As a manipulation check, they were asked to rate the extent to which each of eight onomatopoeic expressions describing crying applied to the image. Finally, participants completed the beliefs about crying measures, after which demographic information, including gender and age, was collected, and the survey concluded.

[2] Onomatopoeic expressions are words that represent sounds associated with nature, animals, and humans (Inose 2007). Beyond sound imitation, onomatopoeia encompasses a wide range of symbolic expressions that convey actions, behaviors, and psychological or emotional states (Inose 2007). A previous study has shown that onomatopoeic expressions are particularly effective in capturing qualitative differences in crying manner. Specifically, static crying was found to be represented by the four onomatopoeic words (*porori porori (ぽろりぽろり)*, *horori horori (ほろりほろり)*, *uru uru (うるうる)*, and *same zame (さめざめ)*), conveying quiet and restrained crying. In contrast, dynamic crying is represented by another set of four words (*wānwān (わーんわーん), uen uen (うえんうえん), uwānuwān (うわーんうわーん), and gyā gyā (ぎゃーぎゃー)*), reflecting loud and expressive crying. For a detailed classification and empirical validation of these expressions, see Shirai et al. (2021).

Results

Analyses were performed in R ver. 4.0.4, with the significance level set at 5%. Table 1 shows descriptive statistics. Because each participant evaluated a single stimulus, all hypothesis-testing analyses used a fully between-subjects design. Linear mixed-effects modeling was used only for manipulation checks, where multiple onomatopoeia ratings were nested within participants. All categorical variables were dummy-coded, with dynamic crying, active onomatopoeia, failure context, and male as the reference categories. Mediation analyses were conducted using structural equation modeling implemented using the lavaan package. Indirect effects were estimated using nonparametric bootstrap confidence intervals based on 5,000 resamples. The main results are reported below; detailed results are provided in the Supplementary Materials.

Manipulation Checks

To confirm that the image reflected the intended crying manner, we fitted a linear mixed-effects model with onomatopoeia congruency ratings as the dependent variable, crying manner condition and onomatopoeia type as fixed effects, and participant as a random effect. Participant gender and image gender were included as fixed effects to control for their influence. The analysis revealed a significant interaction between crying manner condition and onomatopoeia type ($b = 3.76$, $SE = 0.15$, $p < .001$) (see details in Supplementary Table S2-1 and S2-2).

Simple effects tests showed that, in the dynamic crying condition, the fit of the dynamic onomatopoeia was significantly higher than that of static onomatopoeia ($\Delta M = 2.87$, $SE = 0.11$, $p < .01$). Conversely, in the static crying condition, the fit of the static onomatopoeia was significantly higher than that of dynamic onomatopoeia ($\Delta M = 0.89$, $SE = 0.11$, $p < .01$). These results confirmed that the presented stimuli were appropriately perceived as the intended crying manner.

Hypotheses Testing

Hypotheses 1 and 2: Effects of Crying Manner and Context on Social Support Intentions

To test Hypothesis 1, we conducted a linear regression analysis with crying manner and context as predictors. Participant gender and image gender were included as fixed effects to control for their influence. The results showed a significant main effect of crying manner, with static crying eliciting higher social support intentions than dynamic crying ($b = 0.36$, $SE = 0.13$, $p = .005$).

To test Hypothesis 2, we added the interaction between crying manner and context to the model. However, the interaction did not significantly improve model fit, $\Delta F\,(1, 447) = 0.01$, $p = .936$, indicating that the effect of crying style did not differ between the loss and failure contexts (see details in Supplementary Table S3).

Table 1

Descriptive Statistics for the Evaluation Items (n = 453)

Item	Static & Loss (*n* = 118)				Static & Failure (*n* = 108)				Active & Loss (*n* = 124)				Active & Failure (*n* = 103)			
	Female (*n* = 70)		Male (*n* = 48)		Female (*n* = 71)		Male (*n* = 37)		Female (*n* = 76)		Male (*n* = 48)		Female (*n* = 70)		Male (*n* = 33)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Social support	3.16	1.47	2.49	1.26	3.00	1.39	2.51	1.24	2.47	1.43	2.63	1.19	2.34	1.31	2.75	1.29
Appropriate	5.01	1.11	4.65	1.14	4.21	1.03	3.97	1.19	4.30	1.45	4.23	1.45	3.33	1.32	3.67	1.38
Warmth	2.69	1.43	2.77	1.21	2.54	1.15	2.62	1.17	2.18	1.33	2.64	1.40	2.01	1.18	2.53	1.15
Helplessness	3.71	1.34	3.56	1.38	3.46	1.34	3.76	1.26	3.72	1.49	3.58	1.58	3.57	1.27	4.18	1.29
Social connectedness	1.24	1.17	1.13	1.27	1.24	1.36	0.70	0.78	1.17	1.41	1.02	1.30	0.60	0.91	1.00	1.03
Static onomatopoeia	3.01	1.09	3.66	0.97	3.14	1.08	3.86	0.87	1.48	1.17	1.52	1.16	1.74	1.20	1.76	1.22
Active onomatopoeia	2.75	1.36	1.57	1.15	2.88	1.30	2.15	1.35	4.44	1.06	4.35	0.96	4.69	1.03	4.30	0.92
Unhelpful social beliefs	3.31	1.03	3.63	0.61	3.87	0.84	3.77	0.86	3.61	0.96	3.39	1.03	3.59	0.94	3.64	0.98

Hypothesis 3: Mediation by Impressions of the Crying Individual

To test Hypothesis 3, we estimated a parallel mediation model using structural equation modeling. Warmth, helplessness, and social connectedness were entered simultaneously as mediators of the association between crying manner and social support intentions. Participant gender and stimulus gender were included as covariates in all equations. Additionally, because the interaction between crying manner and context was not significant in the test of Hypothesis 2, context was treated as a covariate in the subsequent analysis. The parallel mediation results indicated that only the indirect effect through warmth was significant (indirect effect = 0.087, $p = .087$) were not significant (see details in Supplementary Table S4). The results partly support Hypothesis 3.

Hypothesis 4: Sequential Mediation by Perceived Appropriateness and Impressions of the Crying Individual

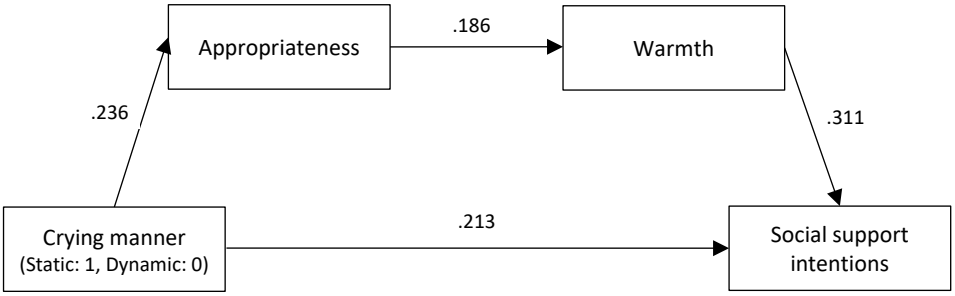
To test Hypothesis 4, a sequential mediation model was examined using structural equation modeling to investigate the effect of crying manner on the intention to provide social support through perceived appropriateness and warmth. Participant gender, stimulus person gender, and context were included as covariates in all equations to control for their effects.

Crying manner significantly predicted perceived appropriateness ($a_1 = 0.640$, $SE = 0.120$, $p < .001$), and appropriateness significantly predicted warmth ($d_1 = 0.176$, $SE = 0.048$, $p < .001$). Furthermore, warmth significantly predicted social support intentions ($b_1 = 0.331$, $SE = 0.056$, $p < .001$). The sequential mediation effect through these paths was significant (indirect effect = 0.037, $SE = 0.015$, $p = .014$, 95% CI [0.012, 0.071]), indicating that an indirect path via perceived appropriateness and warmth accounted for the association between crying manner and social support intention.

Additionally, the indirect effect from crying manner to social support intention via appropriateness alone was significant (indirect effect = 0.138, $SE = 0.041$, $p = .001$, 95% CI [0.063, 0.224]). The total indirect effect, which included both the sequential mediation and this single mediator path, was significant (total indirect effect = 0.175, $SE = 0.048$, $p < .001$, 95% CI [0.089, 0.273]), thereby supporting Hypothesis 4 (Figure 2).

Figure 2

Sequential Mediation Model of the Effect of Crying Manner on Social Support Intentions via Appropriateness and Warmth



Note. Values represent standardized path coefficients. Context, participant gender, and stimulus gender were included as covariates but are not shown for clarity.

Hypothesis 5: Mediating Effect of Impressions of a Crying Individual on the Relationship Between Crying Manner and Social Support Intentions Differs Across Contexts

Because the interaction between crying manner and context was not significant in the primary social support intention analyses, we did not conduct the context-specific mediation analyses proposed in Hypothesis 5.

Hypothesis 6: Moderation of the Effect of Crying Manner on Impressions of the Crying Individual (Warmth) by Unhelpful Social Beliefs

Based on the analyses conducted thus far, the relation between crying manner and social support intention is mediated by perceived warmth, an impression of the crying individual. Because unhelpful social beliefs were expected to moderate the association between crying manner and perceived warmth, the sequential mediation structure identified in Hypothesis 4 was retained, with moderation introduced exclusively on the path from warmth to social support intention.

Results showed a significant interaction between crying manner and unhelpful social beliefs in predicting perceived warmth (c_3 = -0.393, *SE* = 0.119, *p* = .001, 95% CI [-0.633, -0.161]), indicating that the positive effect of static crying on warmth decreased as unhelpful social beliefs increased. Although static crying was generally associated with higher warmth evaluations, this correlation was weaker among individuals who more strongly endorsed unhelpful beliefs about crying (see details in Supplementary Table S5).

Importantly, the index of moderated mediation for the indirect effect of crying manner on social support intentions via warmth was significant (index = -0.130, *SE* = 0.047, *p* = .006, 95% CI [-0.232, -0.047]), indicating systematic variation in the warmth-mediated indirect effect as a function of unhelpful social beliefs. Conversely,

the sequential mediation pathway through perceived appropriateness and warmth remained intact and was not directly moderated by beliefs, supporting the interpretation that beliefs selectively influence interpersonal impressions rather than normative evaluations. Thus, individual differences in unhelpful social beliefs about crying modulate the extent to which crying manner translates into perceived warmth, thereby shaping subsequent social support intentions.

Discussion

This study examined whether differences in crying manner influence intentions to provide social support through impressions of the crying individual, including impressions such as social connectedness, while also considering context and beliefs about crying. The results indicated that crying manner significantly influenced social support intentions, with static crying increasing these intentions, supporting Hypothesis 1. However, no reliable evidence of a context effect was found, leading to the rejection of Hypotheses 2 and 5. Furthermore, the effect of crying manner on social support intentions was mediated by perceived warmth, supporting Hypothesis 3, and was sequentially mediated, first through perceived appropriateness and then through perceived warmth, supporting Hypothesis 4. Moreover, the effect of crying manner on warmth increased as unhelpful social beliefs decreased, resulting in a stronger warmth-mediated indirect effect on social support intentions, supporting Hypothesis 6.

Previous studies have shown that crying increases social support intentions by affecting impressions of appropriateness, warmth, helplessness, and social connection (Zickfeld et al., 2021; Zickfeld & Wróbel, 2024). Additionally, this study found that static crying heightened perceptions of appropriateness compared to dynamic crying, which in turn increased warmth evaluations of the crying individual and ultimately led to higher social support intentions. Although research on the crying manner remains limited, these results are consistent with previous findings using scenario-based methods, suggesting that differences in crying style (tearing up vs. sobbing) influence perceived appropriateness (Wong et al., 2011).

One possible reason why static crying produced more positive impressions is that crying expressions signal emotional regulation. Crying is not merely a spontaneous emotional reaction; it can also be deliberately regulated according to an individual's motives. Previous research suggests that people sometimes up-regulate or inhibit crying depending on the expected psychological consequences (Simons et al., 2013). For example, individuals may up-regulate their crying when they expect that doing so will alleviate their distress. In this sense, crying can be understood as a behavior that is, at least to some extent, strategically controlled. This perspective is relevant for interpreting the present findings. The scenarios in this study depicted sadness-related situations. In these contexts, crying is generally considered socially acceptable. However, the manner in which crying is expressed may convey

information about emotional regulation. In this sense, crying style may serve as a cue from which observers infer how effectively an individual regulates their emotions. Dynamic crying (e.g., *wān wān*) represents a more intense form of crying and is more closely associated with childlike expressions of distress (Tamori, 2002). Compared to static crying, it may signal a lower degree of emotional control. In contrast, quiet crying may signal greater emotional regulation and therefore be perceived as a more socially desirable form of emotional expression. This interpretation is consistent with the passionate restraint hypothesis (Zawadzki et al., 2013), which suggests that a person is perceived as more competent when they acknowledge emotions while keeping them under control rather than expressing them openly or suppressing them entirely. Consequently, restrained crying creates a favorable impression because it conveys that the tears are genuine yet well-managed, potentially explaining why static crying was rated as more appropriate. Although this study did not specifically examine crying intensity, static crying may be perceived as less intense than dynamic crying. Previous research has suggested that lower-intensity tears are perceived as more appropriate (Warner & Shields, 2007; Wong et al., 2011) and are associated with increased social support (Zickfeld & Wróbel, 2024). The findings of this study support this view.

A notable finding is that individual differences in unhelpful social beliefs moderated the effects of crying manner on perceived warmth, which in turn led to differences in the warmth-mediated indirect effect on social support intentions. The unhelpful social belief factor reflects the belief that crying in social settings may induce shame or embarrassment and is therefore ineffective for mood recovery. Because beliefs about emotions shaped by past experiences influence emotional experiences and regulation strategies (Miyamoto et al., 2014), individuals who experience limited relief, or heightened helplessness and embarrassment, when crying in front of others may develop stronger unhelpful social beliefs. Conversely, individuals who have received support from others and perceive crying as beneficial for mood recovery may hold weaker, less unhelpful social beliefs. Further, such beliefs are expected to influence whether individuals provide support to someone crying by shaping their impressions of the crying individuals. Specifically, those who perceive social crying as beneficial and believe it can elicit help from others are more likely to evaluate crying individuals positively, ultimately leading to higher social support intentions through more positive interpersonal evaluations. Nonetheless, when the intent to elicit support is overly explicit, as in feigned crying, social support intentions may be suppressed (Riem, 2020). In this study, the scenarios depicted loss and failure, both naturally associated with sadness, thereby making tearful expressions socially acceptable. These contexts likely contributed to the observed effect, where static crying still enhanced social support intentions.

Previous research on beliefs about crying has primarily focused on their effects on post-crying mood changes, specifically their intra-individual functions (Sharman, Dingle, Baker, et al., 2019). Additionally, studies examining individual differences in social support intentions have largely focused on empathy, either through

empirical investigations or theoretical discussions (Zickfeld et al., 2021; Zickfeld & Wróbel, 2024), leaving the impact of beliefs about crying unexplored. This study shows that beliefs about crying also influence inter-individual functions. However, the underlying process by which beliefs about one's own crying affect one's evaluation of others' crying remains unclear. A potential mechanism is pay-it-forward reciprocity, in which recipients of altruistic behavior extend similar kindness to others, perpetuating a chain of prosocial actions (Nowak & Sigmund, 2005). Individuals with low unhelpful social beliefs about crying may have previously received support when crying or believe that support would be available if they were to cry. Indeed, previous research has suggested that positive responses from others play a crucial role in mood recovery post-crying (Gračanin et al., 2014). Consequently, these individuals may be more inclined to support others who are crying by forming more positive interpersonal impressions of them. Although this explanation remains speculative, future research examining in greater detail how personal beliefs about crying shape interindividual functions, including the role of past experiences as a potential mediating factor, is warranted. Importantly, this hypothesis does not imply a direct causal link; rather, it highlights a plausible experiential pathway through which beliefs about crying may generalize from the self to others.

Conversely, this study found no reliable evidence of a context-type effect on social support intentions. Previous research using verbal expressions has shown that the loss context is more closely associated with static crying, while the failure context is more closely associated with dynamic crying (Shirai et al., 2021). However, in this study, the interaction between context and crying manner did not reach statistical significance in predicting social support intentions.

A possible explanation is that all crying images made a particularly strong impression. The images were designed with exaggerated expressions to manipulate static and dynamic crying, potentially increasing the salience of crying manner cues and thereby reducing the relative contribution of contextual information in the present design. Additionally, all scenarios depicted sadness-related situations, which may have contributed to this pattern. Sadness is a prototypical context for crying (Balsters et al., 2019; Gračanin et al., 2021; Ito et al., 2019), and when evaluating social support intentions - which involves assessing behavioral responses toward others - participants may have prioritized crying manner over context. Crying does not occur solely in response to negative sadness-related events (e.g., loss, divorce, separation, and conflict); it is also observed following positive events (e.g., childbirth, weddings, reunions, and harmony) (Vingerhoets & Bylsma, 2016). Thus, future research should explore the relationship between context and crying manner in greater detail, considering both negative and positive crying situations.

This study had several limitations. First, the cross-sectional design prevents causal inference in the mediation models. Because perceived appropriateness, warmth, and social support intentions were measured simultaneously, the design does not allow conclusions regarding temporal precedence or causal ordering among

these variables. Accordingly, these mediation models should be interpreted as patterns of indirect associations rather than evidence of causal mediation. Moreover, alternative directional pathways are plausible; for example, stronger intentions to provide social support may lead participants to infer greater warmth in the crying individual, reflecting a halo effect (Nisbett & Wilson, 1977). Nevertheless, previous research has consistently indicated that warmth perceptions are key in shaping social support intentions toward crying individuals (Bobowik et al., 2023; van de Ven et al., 2017; Zickfeld et al., 2021). Therefore, the reverse directional pathway may be theoretically less consistent with existing evidence, although the present design cannot rule it out.

Second, the present manipulation of crying manner likely covaries with perceived intensity or loss of composure. This study did not aim to isolate crying manner from intensity; rather, it examined socially shared representations of how crying is expressed (static vs. dynamic) and how such expressive configurations are evaluated. Accordingly, the present findings should be interpreted as reflecting differences in these socially meaningful patterns of emotional expression, rather than as evidence for a crying manner effect independent of intensity. Previous laboratory studies that have differentiated among levels of crying intensity (e.g., just moist eyes versus tears flowing down the cheek) indicate that crying intensity is closely linked to personality traits and mood recovery outcomes (Gračanin & Vingerhoets, 2024), suggesting that crying manner and intensity are intertwined aspects of emotional expression that should be examined together.

Finally, the generalizability of the present findings warrants consideration. Replication studies are needed to determine whether the observed associations among crying manner, perceived appropriateness, warmth, and social support intentions can be reproduced in different samples. Because this study was conducted with Japanese participants, cultural factors should be considered. Although prior research suggests that the interpersonal effects of crying are broadly universal (Zickfeld et al., 2021), cultural differences may exist in how different crying manners are interpreted. Future research should examine whether similar patterns emerge across diverse cultural contexts. Additionally, this study used a limited set of visual stimuli, with only one exemplar per target gender. Future studies should include multiple identities per gender to model stimulus-level variability and support more robust generalization.

Nevertheless, this study is the first to demonstrate that differences in crying manner influence social support intentions through perceived appropriateness and warmth. Furthermore, the crying manner effect on warmth increased as unhelpful social beliefs decreased, resulting in a stronger warmth-mediated indirect effect on social support intentions. These findings indicate that, beyond the presence or absence of crying, the manner of crying expression is crucial for understanding the interpersonal functions of crying.

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Ethics Statement. This study was conducted in accordance with the Declaration of Helsinki for Ethical Principles for Research Using Human Subjects and was approved by the local ethics committee of the university to which the corresponding author is affiliated.

Data Availability Statement. The dataset analyzed during the current study is publicly available via the Open Science Framework (OSF).

An anonymized view-only link is provided for peer review (https://osf.io/8x6ze/overview?view_only=49370fde45bb4aedbbbaf43901bf879d).

Supplemental material is also available on the journal's website (https://pt.ffri.hr/pt/issue/view/52).

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