

Is Crying Beneficial?

Jonathan Rottenberg,¹ Lauren M. Bylsma,¹ and Ad J.J.M. Vingerhoets²

¹University of South Florida and ²Tilburg University

ABSTRACT—*Lay opinion and extensive survey data indicate that crying is a cathartic behavior that serves to relieve distress and reduce arousal. Yet laboratory data often indicate that crying exacerbates distress and increases autonomic arousal. In this article, we present a framework for explaining variations in the psychological effects of crying as a function of (a) how the effects of crying are measured, (b) conditions in the social environment, (c) personality traits of the crier, and (d) the affective state of the crier. Recognizing the heterogeneity of crying effects represents a step toward a more nuanced understanding of this behavior, including its implications for psychosocial adjustment.*

KEYWORDS—*crying; well-being; distress; arousal; catharsis*

It is a relief to weep; grief is satisfied and carried off by tears.

Ovid (43 BC–17 AD; quoted in Lutz, 1999, p. 118)

Crying behavior punctuates the lifecourse, from our start as helpless infants through adulthood, where tears can mark both our most important moments (e.g., weddings, births, and deaths) and the most mundane of events (e.g., a petty squabble). A capacity to cry is part of being human. Is it important for our well-being?

If one consults Western folk psychology about crying in adulthood, this question is answered strongly in the affirmative. In one analysis of 140 years of popular articles about crying, 94% promoted crying as beneficial and warned readers that suppressing tears would be deleterious to the body and mind (Cornelius, 2001). Likewise, the average respondent to a scientific survey also answers affirmatively: In a sample spanning 30 countries, in every nation both men and women reported feeling better after crying, even though cultural norms are often less favorable to male crying than to female crying (Becht & Vingerhoets, 2002). Indeed, it seems that people will even pay to cry. Films we colloquially refer to as “tearjerkers” gross millions of dollars worldwide every year (Lutz, 1999).

Moreover, more formal theories—from psychodynamic theories that view the blocking of tears as a form of repression that produces psychological damage, to biochemical theories that

view tears as a means to rid the body of harmful toxins—also affirm the idea that crying is beneficial (Cornelius, 2001). Finally, if one consults clinicians, most will say that crying is a positive therapeutic experience for their clients, with over 70 percent of clinical practitioners reporting active encouragement of client crying (Nelson, 2005).

A FRAMEWORK FOR UNDERSTANDING THE ELUSIVE EFFECTS OF CRYING

Given this chorus of opinion, one might naturally expect to find overwhelming evidence that crying provides tangible psychological benefits. For this, one would search in vain: The empirical record is at best spotty, with many studies finding no benefits of crying. In this article, we present a framework for understanding the psychological consequences of crying in adulthood, including why its benefits have been elusive in past research. As displayed in Figure 1, this framework considers (a) how the effects of crying are measured, (b) the crier’s social environment, (c) the crier’s personality traits, and (d) the crier’s affective state. Reviewing each of these domains, the psychological consequences of crying behavior appear more heterogeneous and contextually dependent than previously believed. Recognizing the heterogeneity of crying is part and parcel of developing a nuanced account of this behavior.

Finding Benefits of Crying Depends on the Research Paradigm

When asked on surveys to consider past episodes of crying, 60 to 70% of people report that crying brings them psychological benefits (Bylsma, Vingerhoets, & Rottenberg, in press). Subjectively, this is reported as a release of tension and feeling of relief, a pattern captured by the term *catharsis*. However, when crying episodes are induced in a laboratory setting (e.g., by presenting a sad film clip), people rarely report that their tears provide any immediate mood benefits. In fact, in most laboratory studies, people who cry to an eliciting stimulus actually report feeling worse (e.g., increased sadness and distress) than do people who view the same stimulus without crying (e.g., Rottenberg, Gross, Wilhelm, Najmi, & Gotlib, 2002; Gross, Fredrickson, & Levenson, 1994). Moreover, when indices of physiological arousal are concurrently measured, criers are *more* activated on these indices than are noncriers (e.g., increased

Address correspondence to Jonathan Rottenberg, Department of Psychology, University of South Florida, 4202 E. Fowler Ave., PCD 4118G, Tampa, FL 33620–7200; e-mail: jrottenb@cas.usf.edu.

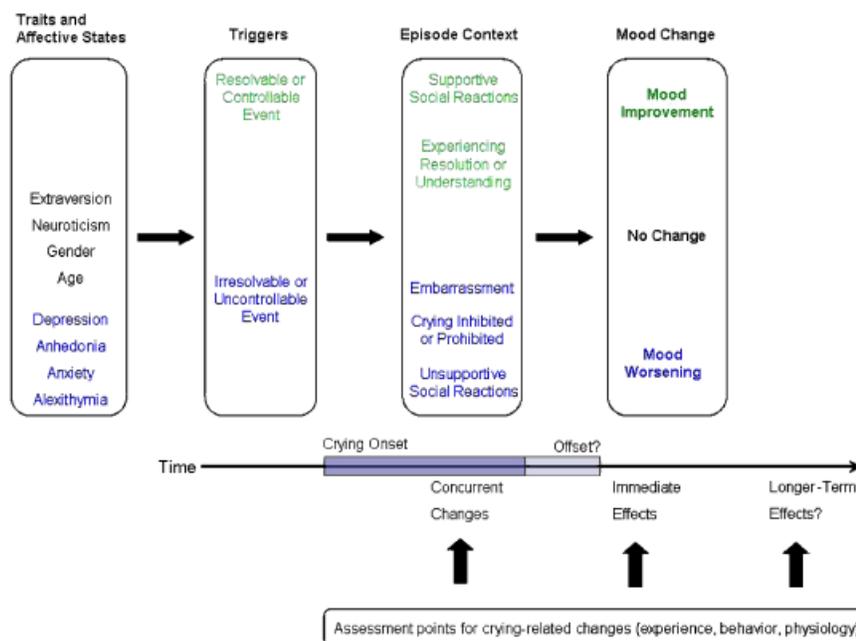


Fig. 1. Our proposed framework for understanding variation in the mood effects of crying. This includes individual traits and affective states, the triggers of the crying episode, and the context surrounding the crying episode. Illustrations of specific factors within each domain known to influence mood change are provided in the boxes where data is available. The influence of these domains on mood change is represented in its proximity to an unfolding crying episode (time). The possibility that crying-related changes vary with the assessment point and choice of crying-related indicator is indicated at the bottom of the figure.

heart rate or sweat-gland activity; Rottenberg et al., 2002)—a profile one would expect to accompany feelings of distress during crying. In sum, survey data suggest that crying is cathartic, whereas laboratory studies often indicate that crying increases distress and arousal (see Bylsma et al., in press, for review). While it is possible that these divergent findings are irreconcilable and in direct conflict, another possibility is that the use of different assessment methods across studies is influencing whether benefits of crying are found.

One reason crying benefits may be elusive is that studies vary in *when* the effects of crying are measured. Survey data finding benefits of crying tend to examine the effects of crying retrospectively, often long after the crying episodes have ended. Unfortunately, this measurement lag makes it impossible to reconstruct when the positive effects of crying occurred. By contrast, in most laboratory studies, the time frame of effects is better specified but very limited in duration (i.e., just the few minutes after crying are assessed). Few investigations have carefully tracked the effects of crying minute-by-minute as crying episodes unfold. Interestingly, a recent physiological study found that crying involved both arousing effects (e.g., increased heart rate) and calming effects (e.g., slowed breathing). Importantly, the calming effects associated with crying lasted 2 to 3 minutes longer than the arousing effects did (Hendriks, Rottenberg, & Vingerhoets, 2007). These findings underscore the possibility that the calming effects of crying arise later than the arousing effects, and point to a need for precisely timed measurements to better characterize the course of crying's effects.

Another reason why crying benefits may be elusive is that the effects of crying are subject to the social context surrounding crying episodes. Input from the social environment may be critical for activating the benefits of crying. Theorists have long commented on the social salience of crying: Through infancy and adulthood, crying has potent signal value and moves others to provide solace and physical contact (Nelson, 2005). Perhaps one reason why mood benefits have been elusive is that field studies (which find benefits) and laboratory studies (which usually do not) examine crying in radically different social contexts. For example, laboratory settings are typically devoid of social support (e.g., solitary viewing of a movie; Cornelius, 2001), and laboratory crying rarely involves situations that others can remedy (e.g., a dispute). Finally, crying in the laboratory often involves being captured on video or watched by strangers, conditions that might produce negative social emotions in criers (e.g., embarrassment) that neutralize crying-related benefits. In sum, the inconsistent literature suggests there is value in paying careful attention to social and contextual factors that surround crying episodes to explain *when* crying might be beneficial.

Benefits of Crying Depend on Social-Environmental Conditions

To gain some empirical purchase on the role of contextual factors in shaping the mood benefits of crying, we analyzed over 3,000

detailed reports of recent crying episodes in which respondents described the surrounding social context and the effects of crying on mood (Bylsma et al., in press). Consistent with previous field studies, the majority of participants reported mood benefits after crying. However, respondents showed significant variation in their reporting of mood benefits, with a third reporting no mood improvement and a tenth even reporting feeling worse after crying. Importantly, variation in social-environmental factors tracked the mood benefits of crying: Criers who received social support during their crying episode were more likely to report mood benefits than were criers who did not report receiving social support. Likewise, mood benefits were more likely when the precipitating events of a crying episode had been resolved than they were when events were unresolved. Finally, criers who reported experiencing negative social emotions like shame and embarrassment were less likely to report mood benefits. These findings demonstrate that crying may have diverse psychological consequences and that variation in the social context surrounding crying episodes helps to explain this heterogeneity.

Benefits of Crying Depend on the Traits of the Crier

Psychological science has often regarded a focus on personality variation as complementary to examining the situational determinants of behavior. For this reason, we were interested in whether self-reported personality variation and other individual-difference characteristics might explain *for whom* crying is beneficial. Moreover, crying research has often focused on person-specific factors as predictors of crying behavior. Indeed, person characteristics have a pronounced influence on who cries and when. Perhaps most notably, adult women cry more frequently and more intensely than adult men do (Vingerhoets & Scheirs, 2000). Another robust finding in this area is that people scoring higher on the personality trait neuroticism (i.e., a susceptibility to experiencing negative emotions) report having more frequent crying episodes than do people lower in neuroticism.

Do person features also predict who benefits from crying? Thus far, the record is mixed. Interestingly, gender and neuroticism do not predict whether benefits of crying are reported. In a large international sample, gender explained only negligible variance in reported mood benefits (Becht & Vingerhoets, 2002). Likewise, a recent study failed to find an association between self-reported neuroticism and reported mood benefits after crying: Even though neurotics cried more often, they reported benefits from crying similar to those reported by non-neurotics (Rottenberg, Bylsma, Wolvin, & Vingerhoets, 2008). Moreover, several other standard personality factors (e.g., extraversion) were unrelated to mood benefits after crying.

The strongest personality predictor to date is alexithymia, a characteristic that involves difficulties in understanding the sources and meanings of emotions. We found that reports of alexithymia were associated with both fewer reported crying episodes and lack of mood benefits from crying: Those reporting

high alexithymia reported worsened mood following crying (Rottenberg, Bylsma, et al., 2008). Theorists have argued that cognitive changes (such as achieving a new perspective on a sad event) can be important in explaining crying-related benefits; thus, we speculate that alexithymics' lack of insight into the causes and meanings of their crying behavior may perpetuate negative mood after crying.

Benefits of Crying Depend on the Affective State of the Crier

The affective antecedents of crying can vary, with sadness, anger, and joy being among the commonest affective antecedents. Is the crier's affective state related to the psychological benefits of crying? We recently found that patients with mood disorders—a group that frequently experiences a sad, dysphoric state—reported crying more frequently to negative antecedents and reported experiencing less post-crying mood improvement than did a non-patient control group (Rottenberg, Cevaal, & Vingerhoets, 2008; Vingerhoets, Rottenberg, Cevaal, & Nelson, 2007). Moreover, individuals who reported anxiety symptoms and those who currently reported an inability to experience pleasure (a condition known as anhedonia) were less likely to report mood benefits from crying (Rottenberg, Bylsma, et al., 2008). Thus, preliminary evidence suggests that variations in affective states between participants may partly explain why the effects of crying are elusive. To strengthen inferences about state effects (as opposed to trait effects) it would help to examine crying-related benefits in the same people in different affective states (e.g., patients in and out of depression episodes).

WHAT ABOUT PHYSICAL HEALTH BENEFITS?

In the service of brevity, this article has focused on crying and psychological health, skirting the issue of whether crying might have beneficial physical health effects. However, the story with physical health is similar: Conventional wisdom propounds health benefits of crying beyond what empirical data support. For example, the idea that crying confers health benefits has been repeatedly articulated in the psychosomatic tradition, in which crying is seen as a means to release physiological tension; it is claimed that tension that is not reduced through crying might find an outlet in bodily diseases such as headaches, ulcers, hypertension, and insomnia. Our recent review of the health benefits of crying finds a large number of null results, and where positive findings exist, they are often accompanied by methodological problems, including case-study designs, retrospective reports of health and/or crying, or the lack of control groups (Vingerhoets & Bylsma, 2007).

TOWARD A DIFFERENTIATED UNDERSTANDING OF HUMAN CRYING

Is crying beneficial, as suggested by folk wisdom and some psychological theories? As documented in this review, we have

repeatedly found that the psychological effects of crying are heterogeneous. At the same time, this heterogeneity is systematic in nature. For example, benefits of crying are more likely in naturalistic settings when people are recalling past crying episodes, when the cry-eliciting event is a resolvable problem, when criers are people who are comfortable expressing their emotions, and when criers are not depressed or anxious. These findings suggest that our initial question must be asked in a new way: *Under what conditions and for whom is crying likely to be beneficial?*

Our approach to studying the psychological effects of crying may appear obvious, but it should be noted that this area of study has often struggled to pose the right questions. In fact, the recognition of crying as a multifaceted behavior with complex antecedents, correlates, and moderators is only recent (Vingerhoets, Cornelius, Van Heck, & Becht, 2000). Crying research has long been hindered by the strong and often unquestioned power of folk beliefs about crying and by the practical difficulty of conducting crying research, in which the object of study is a relatively rare event that is hard to elicit ethically in a laboratory context. Because empirical research on crying is in its infancy, frameworks to guide future work on the psychological effects of crying are particularly important. In this spirit, we close by highlighting three extensions of our framework.

FUTURE DIRECTIONS

Our approach to date challenges the idea that crying is a unified phenomenon. However, understanding crying may require further disaggregation. For example, most research (including ours) has focused on crying in response to negative events. Consequently, little is known about crying in response to positive events (e.g., a wedding), including its processes or even its prevalence. Furthermore, one might even take the view that there are fundamentally different *types* of crying. Recently Nelson (2005) proposed an attachment typology of crying, in which she distinguished between (a) protest crying, designed to undo the situation and characterized by loud and irritating screaming; (b) sad—silent and subdued—crying, designed to create new attachment bonds after a loss; and (c) detached crying, characterized by a lack of tears, representing extreme hopelessness. Nelson further predicts different mood effects dependent on the type of crying (e.g., sad crying of despair will be associated with greater mood improvement than protest crying will be). Empirical tests of ideas like this are needed.

Second, when crying is beneficial, what are the exact proximal mechanisms? For example, we have studied crying-related increases in heart-rate variability, a hypothesized marker of physiological and psychological recovery (e.g., Hendriks et al., 2007; Rottenberg, Wilhelm, Gross, & Gotlib, 2003). Likewise, additional laboratory and field studies are needed to isolate specific features in the social environment that mediate psychological benefits, whether these are situational characteristics, physical comforting behaviors (e.g., an arm around one's shoulder), or other types of social support (e.g., verbal behaviors).

Third, when benefits occur, how long do they last? To examine whether crying behavior may have longer-term benefits, we are testing the hypothesis that crying at the time of a serious medical diagnosis (the HIV virus) will predict improved psychological and/or physical health functioning 6 months later. Longer-term prospective studies are badly needed to strengthen the description and causal modeling of the beneficial effects of crying.

Recommended Reading

- Hendriks, M.C.P., Rottenberg, J., & Vingerhoets, A.J.J.M. (2007). (See References). A laboratory study that presents a new analysis of the time course of crying effects to better characterize the mental and physical effects of crying.
- Vingerhoets, A.J.J.M., & Cornelius, R.R. (Eds.). (2001). *Adult crying: A biopsychosocial approach*. Hove, UK: Brunner-Routledge. An edited book that showcases contemporary research on crying.
- Vingerhoets, A.J.J.M., Cornelius, R.R., Van Heck, G.L., & Becht, M.C. (2000). (See References). A clearly-written review of crying research that presents a model of adult crying.
-

REFERENCES

- Becht, M., & Vingerhoets, A.J.J.M. (2002). Crying and mood change: A cross-cultural study. *Cognition and Emotion*, *16*, 81–101.
- Bylsma, L.M., Vingerhoets, A.J.J.M., & Rottenberg, J. (in press). When is crying cathartic? An international study. *Journal of Social and Clinical Psychology*.
- Cornelius, R.R. (2001). Crying and catharsis. In A.J.J.M. Vingerhoets & R.R. Cornelius (Eds.), *Adult crying: A biopsychosocial approach* (pp. 199–212). Hove, UK: Routledge.
- Gross, J.J., Fredrickson, B.F., & Levenson, R.W. (1994). The psychophysiology of crying. *Psychophysiology*, *31*, 460–468.
- Hendriks, M.C.P., Rottenberg, J., & Vingerhoets, A.J.J.M. (2007). Can the distress-signal and arousal-reduction views of crying be reconciled? Evidence from the cardiovascular system. *Emotion*, *7*, 458–463.
- Lutz, T. (1999). *Crying. The natural and cultural history of tears*. New York: Norton.
- Nelson, J.K. (2005). *Seeing through tears: Crying and attachment*. New York: Brunner-Routledge.
- Rottenberg, J., Bylsma, L.M., Wolvin, V., & Vingerhoets, A.J.J.M. (2008). Tears of sorrow, tears of joy: An individual differences approach to crying in Dutch females. *Personality and Individual Differences*, *45*, 367–372.
- Rottenberg, J., Cevaal, A., & Vingerhoets, A.J.J.M. (2008). Do mood disorders alter crying? A pilot investigation. *Depression and Anxiety*, *25*, E9–E15.
- Rottenberg, J., Gross, J.J., Wilhelm, F.H., Najmi, S., & Gotlib, I.H. (2002). Crying threshold and intensity in major depressive disorder. *Journal of Abnormal Psychology*, *111*, 302–312.
- Rottenberg, J., Wilhelm, F.H., Gross, J.J., & Gotlib, I.H. (2003). Vagal rebound during resolution of tearful crying episodes among depressed and nondepressed individuals. *Psychophysiology*, *40*, 1–6.
- Vingerhoets, A.J.J.M., & Bylsma, L.M. (2007). Crying as a multifaceted health psychology conceptualisation: Crying as coping, risk factor, and symptom. *The European Health Psychologist*, *9*, 68–74.

- Vingerhoets, A.J.J.M., Cornelius, R.R., Van Heck, G.L., & Becht, M.C. (2000). Adult crying: A model and review of the literature. *Review of General Psychology, 4*, 354–377.
- Vingerhoets, A.J.J.M., Rottenberg, J., Cevaal, A., & Nelson, J.K. (2007). Is there a relationship between depression and crying? A review. *Acta Psychiatrica Scandinavica, 115*, 340–351.
- Vingerhoets, A.J.J.M., & Scheirs, J.G.M. (2000). Sex differences in crying: Empirical findings and possible explanations. In A.H. Fischer (Ed.), *Gender and emotion: Social psychological perspectives* (Studies in Emotion and Social Interaction 2, pp. 143–165). Cambridge, UK: Cambridge University Press.