

# Heartbreaking. Gut-wrenching. Devastating: The Motivational Effect of Compassion on Securing Narrative Engagement



Carlos A. González Velázquez, Ph.D. - Fielding Graduate University

## Background

The frequent use of terms such as *harrowing* or *heartbreaking* to promote the consumption of sad stories, stories such as “tragedies, somber documentaries, poignant dramas, and tearjerkers,”<sup>16</sup> suggests a link between a story’s capacity to evoke sadness, its perceived quality, and the likelihood that it will be considered gratifying. Research has demonstrated that such a link exists.<sup>1, 2, 8, 9, 15, 19, 20, 25</sup> Nevertheless, the correlation between sadness and enjoyment seems mediated by the experience of meaningful affect/feelings of being moved.<sup>9, 17, 18, 25</sup> These are feelings of attachment, empathy, compassion, self-gratification, and improved wellbeing, which incentivize approach and altruistic behavior.<sup>13</sup> Thus, it has been proposed that rather than enjoying sad stories, we appreciate them when we find them meaningful and insightful, because they inspire feelings of compassion and connectedness and invite us to reflect on the human condition.<sup>17, 18, 19</sup> However, as a term conditioned to finding meaning on the recognition of merit, appreciation cannot explain why content such as poorly produced and overly melodramatic tearjerkers (e.g., telenovelas), could still be considered gratifying.<sup>17</sup>

Following convention, being moved has been categorized as originating from experiencing the discrete emotions of joy and sadness at the same time.<sup>1, 3, 9, 13, 17</sup> Consequently, it has also been proposed that what we enjoy are representations of prosocial behavior, as well as the aesthetic quality of a story, and that sadness merely intensifies the positive aspect of these happy moments.<sup>9</sup> However, what when the positive instances in a story are too weak or too brief to overcome the number and the intensity of the sad ones?

My research reconciled previous findings with models of altruism from positive psychology,<sup>4, 5, 6</sup> ethology,<sup>7, 21, 22, 23</sup> and behavioral economics,<sup>26</sup> as well as with propositions from flow theory and cognitive neuroscience. I rejected the idea that meaningful affect/being moved corresponds to experiencing joy and sadness simultaneously. Following functional accounts of emotions, which define emotions as solutions to problems rising from the environment,<sup>10</sup> I proposed instead that witnessing others’ distress typically translates to experiencing compassion (i.e., sympathy, empathic concern), rather than just sadness, and that just like compassion motivates altruism in real life, compassion incentivizes narrative engagement as a way to acquire information about the welfare of a character, and that the gratification associated with consuming sad content derives from an overall positive valuation of the somatic changes felt throughout the experience.

Thus, I tested for an association between compassion and engagement mediated by the experience of personal distress (**H1**), between engagement and being moved (**H2**), and between compassion and gratification (**H3**). Additionally, it was expected that the hormonal changes provoked by the engaging experience, specifically the role of endorphins, would also explain gratification (**H4**).

## Participants and Method

Participants ( $N = 45$ ) were recruited among university students and the general public in Tampico, Mexico. Age ranged from 18 to 62 ( $M = 44$ ). 73.3% were female. Only 11.1% reported non-college level education. Participation was compensated with \$21. Participants provided a saliva sample pre and post exposure to either a short sad film (treatment group,  $N = 39$ ), *Love is Never Wasted*, or a mildly positive episode of a travel vlog (control group,  $N = 6$ ), *Alex por el Mundo-Mandalay*. Participants then responded a series of questionnaires to assess for compassion, personal distress, engagement, gratification, and moved state. Saliva samples were tested for changes in the levels of Interleukin-18 (IL-18) as a proxy for the activity of the  $\mu$ -opioid receptors in the brain.<sup>11, 24</sup>

## Results

The treatment group (sad content) showed higher levels of compassion than the control group,  $M = 1.48$ ,  $SE = 0.26$ ,  $t(43) = 5.64$ ,  $p < .001$ . Differences in engagement were not significant between groups. Gratification was higher for the control group,  $M = 0.65$ ,  $SE = .21$ ,  $t(43) = 3.08$ ,  $p = 0.004$ , but the treatment group reported a higher being moved score,  $M = .59$ ,  $SE = .33$ ,  $t(43) = 2.08$ ,  $p = .044$ . Personal distress did not predict any of the dependent variables.

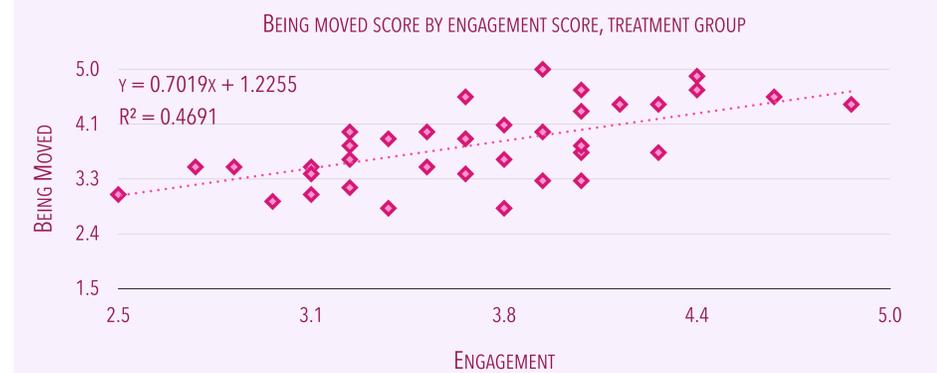
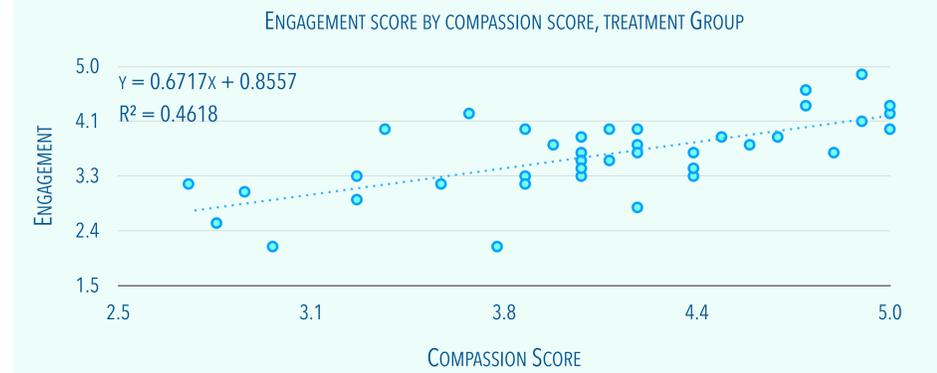
Compassion did not significantly predict engagement nor gratification for the control group. For the treatment group, a linear regression established that compassion significantly predicted engagement,  $F(1, 37) = 31.74$ ,  $p < .001$ , accounting for 46.2% of the explained variability in engagement, with adjusted  $R^2 = 44.7\%$ . **H1 was supported**, but personal distress did not mediate the association.

Engagement did not predict being moved for the control group. For the treatment group, a linear regression established that engagement significantly predicted being moved,  $F(1, 37) = 32.67$ ,  $p < .001$ , accounting for 46.9% of the explained variability in being moved, with adjusted  $R^2 = 45.5\%$ . **H2 was supported**.

For the treatment group, a linear regression established that compassion significantly predicted gratification,  $F(1, 37) = 10.18$ ,  $p = .003$ , accounting for 21.6% of the explained variability in gratification, with adjusted  $R^2 = 19.5\%$ . **H3 was supported**.

Being moved significantly predicted gratification for both the control,  $F(1, 4) = 20.56$ ,  $p = .011$ ,  $R^2 = .84$ , and the treatment groups,  $F(1, 37) = 6.99$ ,  $p = .012$ ,  $R^2 = .16$ . Removing the item “[I felt] sad” from the being moved scale, improved the association between being moved and gratification for the treatment group,  $F(1, 37) = 8.5$ ,  $p = .006$ ,  $R^2 = .19$ . As a single item, sadness correlated with compassion, engagement, and being moved, but not with gratification. Feeling happy did not correlate with being moved.

Results from the physiological tests must be interpreted with caution. First, the association between salivary levels of IL-18 and activity of the  $\mu$ -opioid receptors was presumed, based on previous research,<sup>11, 24</sup> and not measured. Only 32 pairs of saliva samples were analyzed. Of these, only 19 showed detectable levels of IL-18, perhaps because saliva was not the optimal biomarker. Finally, IL-18 levels were, for the most part, below the detection range guaranteed by the manufacturer of the ELISA kit utilized as reliable. With this in consideration, a regression analysis showed that changes in IL-18 were negatively associated with gratification,  $F(1, 17) = 6.26$ ,  $p = .023$  accounting for 26.9% of the changes in gratification with an adjusted  $R^2 = 22.6\%$ . Changes in IL-18 did not correlate significantly with any other variable. When compassion was added to the regression, the association remained significant,  $F(2, 16) = 9.96$ ,  $p = .002$ . Together, compassion and changes in the levels of IL-18 explained 55.5% of the variability in gratification with adjusted  $R^2 = 49.9\%$ . Nevertheless, since the measured levels of salivary IL-18 may have not been valid, **H4 could not be accepted**.



## Discussion

For participants in the treatment group (sad video), higher levels of compassion predicted higher levels of engagement, being moved, and gratification. The results also suggest that participants who enjoyed the sad film did so not because the film made them feel happy or sad but because their engagement was fueled by compassion.

At first glance, the negative association between changes in the levels of IL-18 and gratification is counterintuitive. One would expect that gratification would be connected to the experience of pleasure and pleasure with higher levels of endorphins. Nevertheless, this negative association between changes in the levels of IL-18 and gratification agrees with predictions from models of motivation that propose that during a distressful state, decreased activation of the endorphin receptors in the brain makes us crave social contact as a way to increase their activity and procure comfort.<sup>12, 14</sup> That is, that enjoyment of a sad film, as it occurs with challenging games, depends not only on having a happy ending but also on anticipation, on how bad that happy ending was craved. This interpretation however is conditioned to confirming the validity of the physiological measures by future research.

## Conclusion

The findings from this research are consistent with those from previous studies that suggest that sad content provokes an affective response strongly associated with sadness but qualitatively different, that of being moved. We do not enjoy sad stories because they make us sad, but because they engage us. Sad stories take advantage of a primal urge to care for those in need to capture our attention. The findings also hint that enjoyment should be understood as comprising both the anticipatory and consummatory phases of reward processing. The former gives us meaning and hope; the latter, pleasure.

Considering the association between engagement and persuasion that has been amply demonstrated in the literature, it follows that, in times such as these, where social cooperation is crucial to prevent further spread of the pandemic and to accelerate economic recovery, stories that fill audiences with compassion and hope can not only be entertaining but an efficient way to induce compliance.

Complete references available upon request. Inquiries should be sent to:

[cgonzalezvelazquez@email.fielding.edu](mailto:cgonzalezvelazquez@email.fielding.edu)

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