Physiological Arousal Mediates the Persuasive Impact of Positive Peripheral Cues in Threatening Communication

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Based on a psychophysiological perspective of stress and the excitation transfer theory, this study examines the persuasive mechanisms of the positive peripheral cues in threatening communication. Findings show that for participants who had undergone health threat, positive peripheral cues reduced psychological distress and physiological disturbance, and enhanced persuasion by mitigating or reversing the negative impact of psychological distress and physiological arousal on self-efficacy beliefs.

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EXTENDED ABSTRACT

Threat-related communication, such as health communication, is often processed in stressful contexts. For recipients under stress due to perceived threat, a desirable objective of health communication is to increase recipients’ self-efficacy beliefs. We review a psychophysiological perspective of stress and the excitation transfer theory to propose how physiological arousal, above and beyond affect, can mediate the impact of positive peripheral cues (PPC) in threatening communication on recipients’ self-efficacy beliefs.

Hypotheses

Research form various domains suggests that stress is a psychophysiological process that concurrently involves psychological (e.g., negative affect) and physiological responses (Ursin and Eriksen 2004; Leventhal 1995). Physiological responses include autonomic response such as increased skin conductance, and endocrine response such as increased salivary cortisol. Because the various psychological and physiological components of stress are mediated by relatively distinct neural pathways, they may each uniquely predict consumer behavior or attitude under stress.

Based on the framework of mediation analysis proposed by Kraemer et al. (2002), we propose that physiological arousal meet the essential criteria as the mediator of the persuasive impact of PPC. Specifically, physiological arousal can 1) occur during the communication exposure and be influenced by communication cues; 2) have a direct or interactive effect on the persuasive outcome. Research has shown that for individuals under stress, positive stimuli can alleviate psychological distress and physiological arousal (Fredrickson and Levenson 1998; Berk et al. 1989). For such individuals, PPC may function as safety signals which convey the presence of safety or the absence of threat, thereby leading to improved psychophysiological wellbeing. It can be expected that for recipients under stress due to perceived health threat, PPC in threatening communication can decrease physiological arousal and negative affect. However, such stress-buffering impact of PPC may be negligible for recipients in normal contexts, as the safety-signal value for these individuals will be minimal. We thus hypothesize:

\[ H1: \text{Relative to threatening communication featuring no positive peripheral pictures, threatening communication featuring positive peripheral pictures reduces psychological distress and physiological arousal among recipients who have undergone prior stress due to perceived threat, but not among recipients in normal contexts.} \]

We further posit that physiological arousal, in addition to affect, may have unique impact on persuasion. The excitation transfer theory (Zillmann 1971) argued that physiological arousal resulting from a prior nontrivial event decays relatively slowly and often remains operative after the individual has physically withdrawn from the stimulus. Because people generally do not distinguish between the portions of arousal that are due to prior stimuli and those caused by present stimulation, they may misattribute their residual arousal from prior episodes to an attitude object that is immediately present. In the context of health communication, when the communication is presented without PPC, recipients may misattribute their lingering arousal to their low self-efficacy beliefs (“I must feel bad because I lack confidence in the information.”). On the contrary, when the communication is presented with PPC, the negative misattribution may be attenuated due to mitigated psychological distress and physiological arousal. It is even possible that the recipients may misattribute their improved psychophysiological wellbeing to their enhanced self-efficacy. Thus, for recipients who have undergone a prior threat, PPC in threatening communication may mitigate the negative impact of residual physiological arousal on self-efficacy beliefs, or may even transform arousal and distress from a negative impact into a positive influence on persuasion. Thus we hypothesize:

\[ H2: \text{Positive peripheral pictures in threat-related communication mitigate or reverse the negative impact of psychological distress and physiological arousal on self-efficacy beliefs among recipients who have experienced prior stress.} \]

Methods

We tested the research hypotheses through an experimental study of a 2 (stressful vs. non-stressful contexts) by 2 (cue-present vs. cue-absent communication) between-subject design. Eighty healthy women (mean age=58 ± 7.8) from the local community participated in this study. We first manipulated prior stress via a mental imagery task pertaining either to a high- or low-threat scenario, and then asked participants to browse a consumer health information website that either used PPC or did not use PPC. Physiological responses (skin conductance, heart rate variability and salivary cortisol) and affect during both the mental imagery and web-browsing tasks were recorded. Self-efficacy beliefs were measured after the web-browsing task as an index of persuasive outcome.

Results and Discussion

The stressful imagery task induced higher autonomic and endocrine responses, as well as high negative affect relative to the non-stressful task. Thus the stress manipulation was successful. A series of ANCOVAs showed that the PPC-present website decreased psychological distress and physiological arousal, but increased positive affect among participants who had undergone a prior threat, but not among those in the non-stressful condition. Thus H1 was supported.

Based on Kraemer colleagues’ (2002) framework for mediation and moderation, our analysis showed that for participants who had gone through the stressful imagery task, PPC mitigated the negative impact of psychological distress and autonomic responses on self-efficacy beliefs. Further, for those participants, PPC turned physiological responses from a negative impact into a positive influence on self-efficacy beliefs. Further, the physiological pathway to persuasion was more evident in the stressful versus normal context. Overall, for participants who had undergone health threat, PPC enhanced persuasion by either mitigating or reversing the negative impact of psychological distress and physiological arousal on self-efficacy beliefs. Thus H2 was supported.
This study provided initial evidence that communication cues can interact with both affect and physiological arousal to determine the persuasive outcome. The physiological arousal revealed an important mechanism that can not be captured by self-reported affect. Future research can examine the impact of physiological processes on consumer behavior and decision making in a variety of different settings.

REFERENCES