

TRIPARTITE REACTIONS TO EMOTIONS (TRE) THEORY: THE IMPACT OF EMOTIONAL EXPRESSIONS IN USER-GENERATED CONTENT ¹

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Although emotional expression is commonplace in online user-generated content (UGC), theoretical understanding of its consequences is limited and fragmented. We advance a theory of tripartite reactions to emotions (TRE) in UGC that addresses the following question: When and how do content creators' emotional expressions about a target influence observers' behaviors toward the target and the content itself? Integrating and extending existing theories, TRE theory distinguishes between two kinds of observer behavior, proposes three distinct cognitive and affective pathways, and highlights the moderating influence of UGC context. To guide future research, we develop an extended, dynamic model that allows for interactions among pathways, and we illustrate the application of TRE in an online word-of-mouth setting. TRE represents a novel, emotion-focused theory that researchers in information systems and other disciplines can leverage to explore the interpersonal impacts of emotional expressions on UGC platforms.

Keywords: User-generated content, emotional expression, affect, inference, behavior, content evaluation

Introduction

Even if you're not aware of it, it's likely that your emotions will influence someone around you today. ... But it doesn't stop there. Emotions can spread through social networks almost like the flu or a cold. And the extent to which emotions can cascade is eye-opening. (Aubrey, 2019)

... scrolling through social media feeds laden with emotionally provocative content has the power to change the way we see the world and make political decisions. (Barr, 2019)

Reflecting a fundamental human need to share the emotions we experience (Rimé, 2009), emotional expressions are ubiquitous in online user-generated content (UGC). Due to the archival nature of online platforms and the ease with which they can be accessed, the emotions expressed by a single creator at a single point in time have a long “shelf life” and the potential to influence countless current and future observers. Understanding this influence is an increasingly important topic that has attracted growing scholarly interest.

Spanning information systems (IS) and other disciplines, two broad streams of research have examined how emotions

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expressed in various UGC contexts (such as online word-of-mouth, social media, online news, and online health communities) influence various kinds of observer behavior. One of these streams explores *observer behaviors toward the target of expressed emotions*. For example, research in this stream examines how discrete emotions in online reviews influence purchase decisions, how emoticons in social media posts influence persuasion, and how positive and negative emotions in petitions influence endorsement of a cause (e.g., Chen et al., 2019; Qiu et al., 2023; Yin et al., 2021). The other stream explores *observer behaviors toward the UGC itself*, such as liking and sharing, which can amplify the impact of expressed emotions through greater exposure (e.g., Berger & Milkman, 2012; Stieglitz & Dang-Xuan, 2013). Within this stream, some studies have explored the impact of expressed emotions on *observer evaluative judgments of UGC*, such as its helpfulness and credibility (e.g., Deng & Chau, 2021; Yin et al., 2014), which are assumed to predict observer behavior toward the UGC.

As a theoretical foundation for their work, researchers in both streams have built upon a wide range of existing theories about emotion to explain different behaviors. This approach has been very fruitful but has also entailed a number of shortcomings. First, because existing emotion theories were originally developed for offline settings, they may not be directly applicable to online UGC settings. For example, Yin et al. (2021) applied emotions as social information (EASI) theory to explain how anger in online reviews toward a retailer influences reader attitudes and decisions. However, EASI theory focuses on active, dyadic, and typically in-person social interactions between a sender and a receiver who know one another. In contrast, online review settings typically involve one-way, indirect, and transitive communication from a reviewer to numerous, unknown future readers, whose interest lies in the target of the communication (e.g., the retailer) rather than its source (i.e., the reviewer). Stretching EASI from its original, dyadic formulation to this very different setting may not be appropriate.

Second, investigations of the same UGC setting often apply very different theories. Building on the current example, the impact of emotional expressions on judgments of online reviews has been explained using cognitive appraisal theory and its variants (e.g., Craciun et al., 2020; Yin et al., 2014, 2017), expectation violation theory (e.g., Rocklage & Fazio, 2020), confirmation bias (e.g., Park et al., 2023), and negativity bias (e.g., Chou et al., 2022; Hong et al., 2016). In general, researchers have adopted a single theoretical lens that aligns with their prior beliefs, their expertise, or particular patterns of results, while discarding other relevant theories. Although understandable, this selective style of theory application can fragment collective understanding and hinder cumulative scholarship. For example, each of the

mentioned theories imposes a very different “lens” on the process of interpreting review-embedded emotions (based on the inferences that give rise to emotional experience, prior expectations about the review, heuristics and biases during the reading process, etc.). Studies that apply one of the theories alone are inherently constrained by its lens, forgoing broader insights that could be afforded by a more integrative theory.

Along similar lines, prior research tends to adopt a narrow theoretical scope that limits understanding of underlying processes. In particular, most investigations present an explanation based on *either* the cognitive inferences made by observers *or* their affective reactions. For example, studies examining consumer evaluation of product reviews and/or purchase of reviewed products tend to rely on cognitive explanations (e.g., Lafreniere et al., 2022; Rocklage & Fazio, 2020; Yin et al., 2017), whereas studies examining observer attention to and sharing of social media posts, online news, etc., tend to rely on affective explanations (e.g., Berger & Milkman, 2012; Berger et al., 2023; Qiu et al., 2020; Stieglitz & Dang-Xuan, 2013). Given that cognitive and affective mechanisms can independently underlie the effect of emotions on a given behavior and might even oppose or interact with one another (Maiberger et al., 2024; Qiu et al., 2023; Yin et al., 2021), omission of one or the other mechanism can severely bias interpretations.

Finally, most investigations focus on only one type of observer behavior—that toward the target of emotions or that toward the UGC itself—and this dichotomizing inherently constrains the usefulness of the findings when both outcomes are of interest. For example, a retail review platform is concerned not only with the “helpfulness votes” that reviews receive but also with the effect of those reviews on purchase behavior. Although prior work has established that anger-embedded reviews are perceived as less helpful (Craciun et al., 2020; Yin et al., 2014), other work has shown that they can nonetheless be more persuasive (i.e., they impact purchase more negatively) (Yin et al., 2021; Yu et al., 2023). There exists a need to systematically theorize how the same emotional expressions may influence different behaviors in similar or different ways.

To summarize, most empirical studies of emotion in UGC constrain themselves to a single context, outcome behavior, and explanatory mechanism, based on a single theory that was originally developed for an offline context. Integration is sorely needed to synthesize existing evidence and resolve underlying fragmentation in a way that can guide future investigations. With this need in mind, we advance a theory of *tripartite reactions to emotions* (TRE) in UGC that addresses the following question: *When and how do emotions expressed by a content creator about a target influence observer behaviors toward the target and the content itself?*

Fundamental to TRE are three distinctive features. First, it is the first IS theory developed specifically to explain the *interpersonal* effects of expressed emotions. As an emotion-focused theory grounded in the phenomenon of online UGC, TRE complements a limited body of prior IS theorizing on emotions, the most prominent example of which is the affective response model (ARM) (Zhang, 2013). In contrast to the ARM, which focuses on the role of affect in the utilization of information and communication technologies (ICT), TRE focuses on how creator-expressed emotions influence observers, and the primary role of ICT in our theory is simply to facilitate the communication of emotion (rather than being the target of emotion). Second, TRE foregrounds the *target* of emotional expression. Although generally overlooked by theories conceived in offline environments, the target of expression is crucial in online environments because it connects a single creator to countless observers with interests in that target. Third, TRE illuminates the “black box” through which emotional expression in UGC can influence *multiple types of observer behavior* in profoundly different ways. By considering two distinct outcomes, three distinct pathways, and important contextual influences, TRE represents a “grand theory” (Leidner & Gregory, 2024) that is nonetheless tractable and adaptable to specific UGC settings.

Background and Constructs

Theoretical Approach

We developed TRE using an inductive, top-down approach, as is commonly recommended when relevant literature is vast and diverse (Sætre & Van de Ven, 2021; Shepherd & Sutcliffe, 2011). After identifying a research problem, theorists using this approach treat the literature (which can include conceptual or empirical work) as “data,” from which they derive tensions that become the focus of theorizing. Having done so, they begin to induce abstract constructs and relationships (incorporating explanations of “how” and “why,” boundary conditions, etc.) to provide a novel solution to the identified problem. The inductive process is highly iterative, as it involves constant comparison and thought experimentation to assess whether the emerging theory offers a coherent and better resolution of the identified tensions.

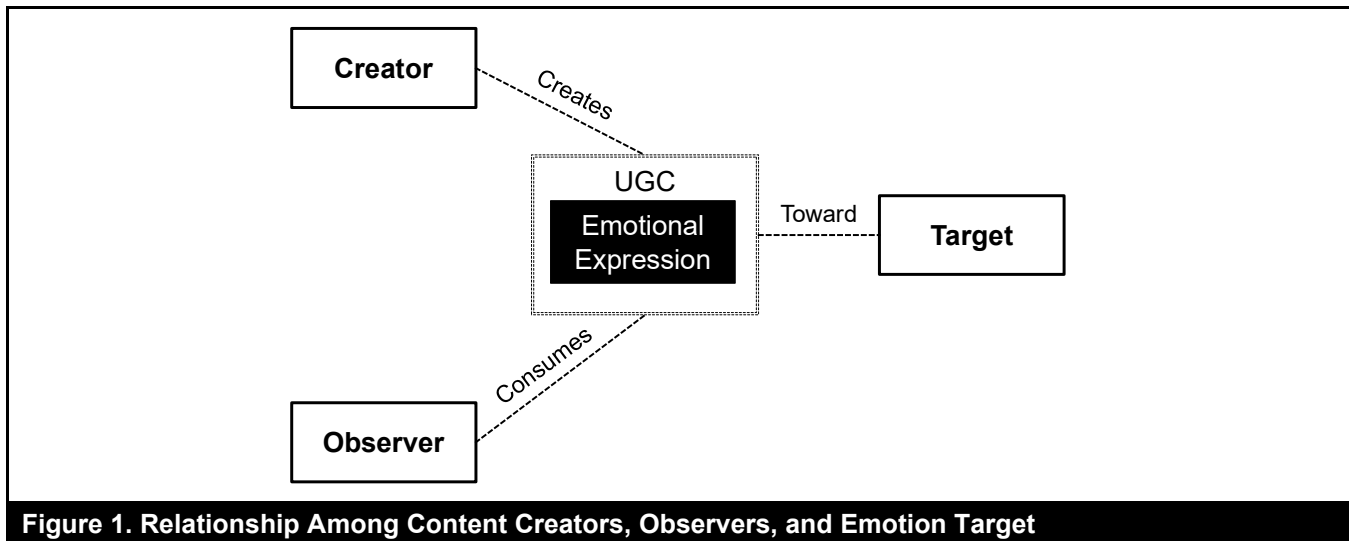
Putting this approach into practice, we began by consulting both prior literature on emotions in UGC and prior literature on the interpersonal effects of emotions. Regarding the former, we conducted a keyword search of the Financial Times list of 50 business-related journals and the AIS Senior Scholars’ List of Premier Journals. After screening over 800 results, we reviewed and coded 46 articles that fit the scope of our theoretical interest (see Appendix A).² Regarding the interpersonal effects of emotions, we reviewed seminal books, chapters, and articles and conducted backward and forward citation searches to ensure broad coverage of this literature. We held regular meetings to discuss and achieve a shared understanding of both streams of literature. In doing so, we recognized major shortcomings of prior theories for explaining the impact of expressed emotions in the unique context of UGC, as well as major challenges faced by empirical studies attempting to extend and adapt those theories to UGC settings. The idea of a “tripartite” relationship emerged during this process, and it served as the foundation of our new theory. Next, we derived theoretical constructs formalizing the tripartite relationship and developed propositions linking the independent construct of emotional expression to various consequential outcomes. Over successive iterations of theory development and modification, we addressed the identified challenges while ensuring that the resulting model was broad, simple, and coherent.

Three Parties in Emotional Communication

TRE is intended to apply to a wide range of settings in which an observer encounters user-generated content (UGC) containing emotional expressions. For purposes of the theory, UGC refers to any form of content (text, visual, and/or audio) that is generated by human creators and posted on an online platform (Krumm et al., 2008). We restrict our focus to a single emotional expression contained in a single item of UGC (though integration of multiple items and expressions would be a fruitful extension—see General Discussion section). We assume that observers notice and attend to the creator’s emotional expressions; this serves as the starting point for the theory. Creators express and share emotions for a wide range of reasons, including impression management, emotion regulation, persuasion, etc. (Berger, 2014). The underlying process by which creators experience and express emotions is outside the scope of the theory, as is the intrapersonal impact of emotions on creators themselves.

² We searched the titles, keywords, and abstracts of all indexed papers for the following terms: (*affective OR emotion* OR mood* OR feel**) AND (*user-generated content OR user generated content OR forum* OR communit* OR question-and-answer OR blog* OR consumer review* or consumer rating* or online word-of-mouth OR electronic word-of-mouth OR social media OR social network* OR wiki* OR photo shar* OR video shar* OR game* or virtual world* OR crowd* OR contest* OR Facebook OR Twitter OR Instagram OR Tumblr OR Snapchat OR Twitch OR Tiktok OR VK OR Pinterest OR Reddit OR YouTube OR Amazon OR eBay OR Wordpress OR LiveJournal OR Weibo OR Kickstarter OR Indiegogo OR*

*Yelp OR Buzzfeed OR Flickr OR TripAdvisor OR podcast**). We reviewed the abstract of each returned paper and then scanned the full paper (if necessary) to determine its relevance for inclusion. The following criteria were applied: (a) the context is UGC, (b) the independent variable is emotions expressed in online environments; (c) the creators are human; (d) the creators are not directly associated with the target of the expression (thus excluding advertisements, crowdfunding “pitches,” etc.); (e) the target is relevant to both creators and observers; and (f) the outcome variables include observer judgments, evaluations, and/or behaviors.



TRE models the impact of emotional expressions in UGC through the interaction of three parties: content creators, content observers, and a target of common interest (Figure 1 illustrates this tripartite relationship). *Creators* are individuals or groups (teams, organizations, etc.) who produce content in one or more modalities (text, images, audio, video) and share that content on one or more platforms (social media, online forums, consumer review sites, blogs, etc.). The *target* of an emotional expression is the specific stimulus or object to which the expressed emotion is directed (Smith & Ellsworth, 1985). The target can be tangible (e.g., a product, place, person, or retailer) or intangible (e.g., an idea, innovation, experience, or brand). A common target is often the “linchpin” that connects UGC creators to observers.

Observers are platform users who read, watch, or otherwise consume content produced by creators. In some cases, observers seek out a piece of content because of their interest in the target itself (Moore & Lafreniere, 2020): for example, shoppers may search for opinions about a product, a forum user may search for specific topics of interest, etc. In other cases, the process may be more spontaneous, as when social media users “browse” their friends’ posts and status updates. An important contrast with face-to-face communication settings is that creators and observers on UGC platforms do not typically interact directly. TRE theory makes no assumptions regarding the preexisting relationship between observers and creators, and it applies even to cases where one or both parties are anonymous. However, we assume that the target is not the observer or the creator themselves and is not directly associated with either party. In particular, we exclude cases where the creator has an obvious vested interest in the target—e.g., advertisements, sponsored endorsements or testimonials, crowdfunding “pitches,” etc.

Having encountered and recognized emotional expressions in UGC content, how will observers respond? As developed later, TRE incorporates three major types of reactions. First, observers may experience *direct affective reactions*. Second and third, observers may form *inferences about the target* and/or *inferences about the creator*. Thus, the “tripartite” nature of the theory results from its focus on three constituent entities (creator, observer, and target) involved in emotional expression, as well as three pathways that correspond to each entity: the *observer’s* affective reactions, inferences about the *target*, and inferences about the *creator*.

Characterizing Emotions

To set the stage for what follows, it is useful to distinguish the concept of *emotion* from the related concepts of *affect* and *mood* (Cohen et al., 2008; Gray & Watson, 2001; Zhang, 2013). Affect is an umbrella term that represents positive or negative subjective mental experiences, including both moods and emotions. Emotions are affective reactions triggered by a specific external stimulus that is relevant to one’s needs, goals, or interests. In TRE, the target of the emotional expression is assumed to be this triggering stimulus (e.g., the target of the expression “The warm weather makes me so happy!” is the weather). In contrast, moods are generalized and longer-lived affective states not attributable to a specific external stimulus (e.g., the expression “I feel so happy today!” contains no identifiable target).

Scholars have taken various approaches to characterizing and classifying emotions. One popular perspective posits that a small number of fundamental underlying dimensions can parsimoniously explain their effects (Mano, 1991; Watson & Tellegen, 1985). A prominent example is the circumplex model

(Russell, 1980), which maps the universe of emotions onto two dimensions of *valence* and *arousal*. Valence is the extent to which someone perceives an experience to be pleasant or unpleasant, and it is commonly used to distinguish positive and negative emotions. Arousal is the extent to which someone is energized by an experience, and it ranges from low to high energy (or activation, intensity). Although valence and arousal often correlate, they are independent and distinguishable (Niedenthal, 2008; Russell & Barrett, 1999). For example, both anger and disappointment are characterized by negative valence, but anger is characterized by substantially greater arousal.

Despite the popularity of the circumplex model and similar approaches, they have widely acknowledged shortcomings. For example, the bipolar depiction of positive and negative emotions along a single continuum cannot easily account for the occurrence of “mixed” feelings (simultaneous experience of positive and negative emotions) or distinguish emotional ambivalence from neutrality (Schneider & Schwarz, 2017). Watson and Tellegen (1985) provided an alternative interpretation that characterizes emotional space through combinations of positive and negative affect (the solid lines in Figure 2). Their interpretation motivated the development of the widely used Positive Affect and Negative Affect Schedule (PANAS) (Watson et al., 1988) and simplified comparison of the effects of positive versus negative emotions (Rozin & Royzman, 2001).

Notwithstanding their parsimony, such dimensional perspectives are not ideally suited to capturing nuanced distinctions in the experience of discrete emotions (Fontaine et al., 2007). That purpose is better served by appraisal theories, which propose that emotions result from specific cognitive appraisals (interpretations) that one makes about the triggering stimulus and situation (Ellsworth & Scherer, 2003; Leventhal & Scherer, 1987). Prior research has identified a core set of appraisals to which a vast range of emotions can be traced, including: (a) pleasantness (the fit of a stimulus or situation with one’s goals and desires), (b) certainty regarding the situation and its expected outcome, (c) attributions of responsibility (who or what caused the situation), and (d) one’s ability to control or cope with it (Smith & Ellsworth, 1985). For example, the emotion *happiness* is driven by appraisals that something very pleasant has happened with a high degree of certainty, whereas the emotion *anger* is driven by appraisals that something unpleasant has happened and was caused by another person (Lazarus, 1991). Due to differences in underlying appraisals, emotions that are similar in valence and arousal may nonetheless exhibit very different effects. Taken together, the three perspectives reviewed here should be viewed as complementary rather than conflicting, as each has proven invaluable for addressing specific questions in the study of emotion.

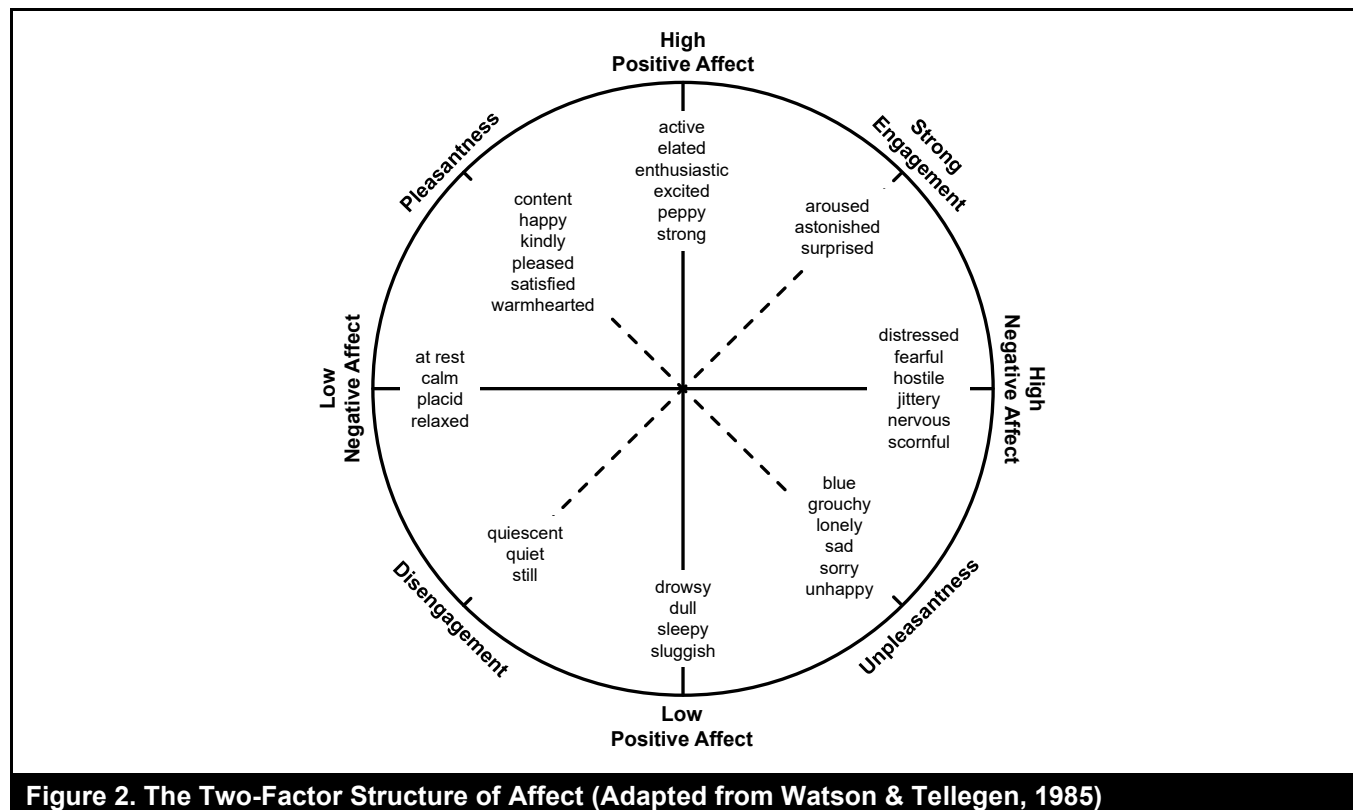


Figure 2. The Two-Factor Structure of Affect (Adapted from Watson & Tellegen, 1985)

A defining feature of TRE is that the theory focuses not on the actual experience of emotion by creators, but rather on their *expressions* of emotion in UGC. It is those expressions of emotion that are consumed by and influence observers. Emotional expression in UGC occurs through a variety of forms that range from verbal (e.g., emotional words in written text) to nonverbal (e.g., bodily gestures or voice patterns in images or video) to symbolic (e.g., emoticons or emojis) (van Kleef & Côté, 2022).

Behavioral Outcomes

In attitude theory, the term “behavior” refers to concrete actions that involve the approach or avoidance of an attitude object (Ajzen & Fishbein, 1977). TRE is concerned with two categories of observer behavior, in which the attitude object is either: (1) the target of an emotional expression, or (2) the UGC content itself.³ Concerning the first of these, the target of expression is often what motivates observers to consume UGC, and different types of targets will imply different types of relevant behaviors. At a review platform, for example, the target of emotional expression might be a specific product, and a relevant observer behavior might be the decision to purchase that product. In a social media context, the target might be a position that has inspired controversy, and a relevant observer behavior might be action in support or protest. Other examples include trying out an activity advocated by an online influencer, adopting a recommendation from enthusiastic members at a Q&A forum, etc.

The second type of behavior considered by TRE, behavior toward the content itself, is not a focus of prior emotion theories but is very important in UGC settings. Modern UGC platforms allow observers to interact with content in a multitude of ways, the most obvious of which is consumption itself: Due to the vast amount of UGC available, users are selective about what content to consume (Lei et al., 2023) and may scan only a small portion before deciding whether to continue (Berger et al., 2023). Platforms often allow observers to express satisfaction with content they have consumed by providing feedback in the form of “likes,” “votes,” etc. (Heyman et al., 2022). In addition,

observers may proactively “share” consumed content via different channels, increasing its viral impact (e.g., Berger & Milkman, 2012; Vosoughi et al., 2018). Other common examples of behavior toward the content include responding to it, commenting on it, tagging it, “blocking” it, and reposting or linking to it elsewhere.⁴

Propositions

Having introduced the major elements of TRE, we now turn to its major propositions. At the core of the theory are three distinct pathways representing the tripartite relationship between creator, observer, and target, which together capture the diverse reactions that can result from encountering an emotional expression. Such reactions fall into two broad categories: inferential processes and affective reactions (van Kleef, 2009). Concerning the first category, observers may use inferences to make sense of the situation based on their personal beliefs and interpretation of the emotional expression (Hareli & Hess, 2019). Applied to a UGC setting, we propose that observers make two distinct types of inferences, involving: (1) the target of the emotional expression and (2) the UGC creator. Logically, observer inferences about the target will be a major determinant of their behavior toward that target. In addition, observer inferences about the creator should be a major determinant of their behavior toward the content (given that the creator and content are inherently linked). Concerning the second category, encountering an emotional expression often leads observers to experience their own affective reactions. Given that the experience of affect can itself induce behavioral responses (Loewenstein et al., 2001; Russell, 2003), TRE considers the impact of observer affective reactions on behaviors toward both the target and the content.

In summary, we propose that three major pathways drive the behavioral responses of observers to emotional expression in UGC: inferences about the target of the expression, inferences about the creator, and observer affective reactions (see Figure 3). Below, we develop propositions concerning each pathway, summarize relevant empirical findings, and identify opportunities for future exploration.

³ A third category of observer behavior is that toward UGC creators themselves (“following,” “subscribing,” etc.). TRE does not focus on such behaviors because they only apply to a limited range of UGC platforms and contexts. However, extending the model to such behaviors would be intriguing. Tentatively, we suggest that such an extension could be guided by emotions as social information theory (EASI; van Kleef, 2009) and other theories developed originally for offline interactions.

⁴ In some instances, behaviors toward the UGC content might influence behaviors toward the target of emotional expression: e.g., the act of replying to posts about a social cause might increase commitment to that cause. In other instances, behaviors of one observer may influence behaviors of other observers: e.g., the act of sharing content with others may influence their own behaviors toward the target or the content. For parsimony, however, we treat the two behaviors as distinct outcome variables (with distinct objects), and we disregard their mutual impacts or cross-level phenomena.

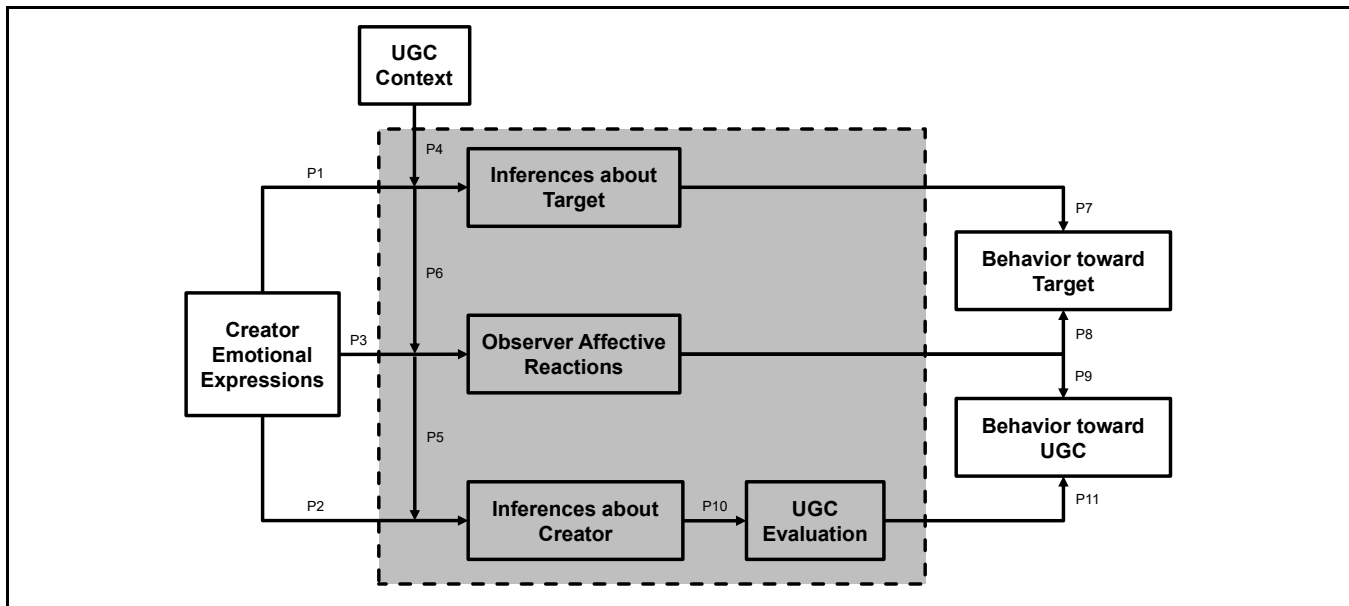


Figure 3. TRE Theoretical Model

Observer Inferences About the Target

Consistent with *reverse engineering* (or *reverse appraisal*) accounts of emotional response (Hareli & Hess, 2019), TRE begins with the assumption that people are naive “emotion psychologists” who have developed lay theories regarding the emotions that are likely to occur in a given situation. These lay theories are based on a lifetime of accumulated observation and reflection on emotions that have been personally experienced and observed in others. Upon recognizing that someone is experiencing an emotion, people utilize their lay theories to make intuitive guesses regarding emotional cause-and-effect (Kun & Weiner, 1973); specifically, they tend to “fill in the blanks” by reconstructing what might have caused that emotion to occur. Reverse engineering accounts are not dependent on the validity of appraisal theories themselves, but only require that people have folk theories regarding how emotion “works” (Gratch & de Melo, 2019). Prior research on the communication of emotions has revealed findings consistent with reverse engineering in face-to-face contexts such as negotiation, leadership, and group social influence (see van Kleef & Côté, 2022, for a review of evidence).

We propose that emotional expressions in UGC settings influence observer inferences about the target through a similar reverse engineering process. At a high level, observers are likely to infer from positive (negative) emotional expressions that the target must have positive (negative) qualities that give rise to those expressions (Magee & Tiedens, 2006; van Kleef et al., 2015). For example, retailer reviews containing more negative vs. positive emotional expressions will usually lead review readers to form more negative vs. positive impressions

of the retailer (Yin et al., 2021). Due to the widely observed *negativity bias*, by which negative stimuli receive greater attention and weight in judgment (Rozin & Royzman, 2001), expressions of negative emotions might be especially influential. At a more nuanced level, reverse engineering suggests that observers who encounter expressions of different discrete emotions (regardless of valence) will make different inferences about appraisal-related aspects of the target (van Kleef & Côté, 2022). Together, these ideas form the basis for our first proposition. Tables 1-9 summarize existing evidence regarding each of the propositions and present opportunities for future research (For P1, see Table 1).

P1: Expressions of a UGC creator’s emotions influence observer inferences about the target.

Observer Inferences About the Creator

In addition to inferences about the target of emotional expression, TRE proposes that observers often make inferences about the content creator. Reverse engineering accounts maintain that individuals hold lay beliefs about the “kinds of people” who feel and express different emotions in different situations (Hareli & Hess, 2019). In part, these lay beliefs are based on “emotion scripts,” which include prototypical antecedents and consequences (“action tendencies”) for different emotions (Lerner & Keltner, 2000). Having encountered an emotional expression, therefore, observers use their lay theories to “fill in the blanks” and make corresponding inferences about the state or traits of the creator who experienced that emotion.

Among the most important and heavily studied inferences in UGC settings are those regarding creator effort, rationality, and trustworthiness. Effort refers to the total amount of cognitive resources (e.g., time, deliberation, and thinking) used to complete a task (Cooper-Martin, 1994). Rationality refers to the extent to which one's thoughts and behaviors are guided by reason and logic (Broome, 2021). Trustworthiness refers to the perceived competence and integrity of an information source (Mayer et al., 1995). Logically, all three of these inferences may be impacted as observers use reverse engineering to make sense of an emotional expression. For example, negative emotions are

typically associated with greater cognitive effort and deliberation than positive emotions (Schwarz & Clore, 2007).

Given the strong association of emotional arousal with motivation, the arousal conveyed by an emotional expression is likely to exhibit substantial effects on observer inferences. For example, individuals who demonstrate greater arousal are generally perceived to expend more resources and to process information more carefully (O'Hanlon, 1981). At higher and higher levels of arousal, however, the association becomes weaker, and very high arousal is considered an impediment to careful reasoning (Oatley & Johnson-Laird, 2014).

Table 1. The Impact of Emotions in UGC on Observer Inferences About the Target

Relationship between	Empirical support	Sample research opportunities
Emotional valence	The valence of emotional online word-of-mouth about a brand influenced the valence of consumers' recommendations for the brand in subsequent periods (Gopinath et al., 2014). Different emotions were also assumed to influence inferences about a product or firm in a valence-consistent way, such that positive (negative) emotions enhance (reduce) the judgments of the target of emotional expression (Ludwig et al., 2013; Nguyen et al., 2020; Yin et al., 2021).	<i>Is the effect of emotional valence on observer inferences about the target deliberative or automatic?</i> <i>When does emotional valence lead observers to form valence-inconsistent inferences about the target?</i> - Yin et al. (2021) offered preliminary evidence in an online review context that the effect might be automatic, but more research is needed. - Negative emotions may lead observers to form positive impressions about the target (e.g., when the UGC is deemed irrelevant; see Shoham et al., 2017), and vice versa. - Answers to such questions might inform the effectiveness—and unintended consequences—of valence-based platform tools (e.g., “sorting” UGC based on valence).
Emotional arousal	No empirical studies available.	<i>Does emotional arousal influence observer inferences about the target?</i> Arousal does not itself convey positivity or negativity, but it might inform other kinds of inferences about the target—such as morality, fairness, and plausibility judgments—which can in turn influence important behaviors (see Tsoukas et al., 2024).
Positive and negative emotion (as separate constructs)	The respective effects of positive emotions and negative emotions were not symmetrical in the contexts of online reviews (Ludwig et al., 2013) and social media (Nguyen et al., 2020).	<i>Do positive or negative emotions influence observer inferences about the target to a greater extent?</i> - Ludwig et al. (2013) and Nguyen et al. (2020) offered indirect evidence suggesting a negativity bias (i.e., negative emotions influence observer inferences to a greater extent than positive emotions) in the short term, but direct evidence is lacking. - Zhang et al. (2010) found that positive UGC (presumably containing positive emotions) is more influential for observers with “promotion” goals than “prevention” goals. More research is needed on this and other important boundary conditions.
Discrete emotions	Anger on social media can shape observers' sense-making and interpretation of an event in a manner distinct from other negative emotions (Kudesia, 2021).	<i>In what unique ways do discrete emotions influence observer inferences about a target?</i> Discrete emotions convey specific information (e.g., expressed anger towards a person, product or firm conveys different information than expressed sadness). The influence of this information on observers is understudied and has clear implications for targets as they respond to UGC.

Table 2. The Impact of Emotions in UGC on Observer Inferences About the Creator

Relationship between		Empirical support	Sample research opportunities
Emotional valence	Inferences about the creator	The valence of online reviews influenced observer attributions to the creator or the target under certain situations (Chen & Lurie, 2013; note that they did not address emotions directly).	<i>How does emotional valence affect observer inferences about the creator? What is the relative influence on inferences about the creator vs. inferences about the target?</i> Given that valenced expressions in UGC settings are ubiquitous and clearly associated with their creators, research is sorely needed to explore how they affect creator-related inferences.
Emotional arousal		The use of emoticons in online social media messages increased the perceived trustworthiness of message creators (Qiu et al., 2023). However, expressions of high arousal damaged creator trustworthiness in persuasion contexts (Mukherjee et al., 2022; Rizzo et al., 2024). Investigations using archival data assumed that high levels of arousal reduce inferences of creator rationality (Hong et al., 2016; Ransbotham et al., 2019). In the context of online reviews, the impact of expressed arousal on perceptions of reviewer effort and rationality were nonlinear (Chou, 2023; Yin et al., 2017).	<i>Does emotional arousal influence observer inferences positively or negatively? Is the influence nonlinear? On what important contextual factors does the influence depend?</i> To resolve mixed prior findings, more research is needed to identify conditions under which the effect of emotional arousal is positive or negative, as well as the shape of the relationship.
Positive emotion and negative emotion (as separate constructs)		No empirical studies available.	<i>Do positive emotions or negative emotions have greater influence on observer inferences about the creator?</i> We call for more research on positivity and negativity biases in the context of UGC emotions. As a relevant example, Chen and Lurie (2013) suggested that positive reviews are attributed more directly to reviewers themselves (vs. products) in the absence of temporal contiguity cues, while negative reviews are attributed more directly to reviewers in the presence of such cues.
Discrete emotions		Compared to expressed anxiety or no emotional expression, expressed anger in online reviews led readers to perceive a reviewer as exerting less effort (Yin et al., 2014), less rational (Yin et al., 2021), and less trustworthy (Craciun et al., 2020). In the context of online news, expressions of anger reduced reader perceptions of author effort, but expressions of sadness did not (Deng & Chau, 2021).	<i>Beyond effort, rationality, and trustworthiness, how else do discrete emotions influence observer inferences about the creator? To what extent are these inferences accurate?</i> <i>How do “moral” and “social” emotions influence observer inferences about the creator?</i> - As is the case in offline contexts, discrete emotions in UGC should logically inform a broad range of observer inferences. For example, it would be fascinating to explore how they inform impressions of creator personality (Yang et al., 2023). The accuracy of such inferences has far-reaching implications for downstream interaction and engagement. - Existing evidence mostly considers a small set of basic, negative emotions: anxiety, anger, and sadness. Further research should consider a broader range of commonly expressed emotions, including both “moral” emotions (e.g., contempt, anger/outrage, disgust) and “social” emotions (e.g., envy, pride, shame) (Hareli & Parkinson, 2008; Rozin et al., 1999; Tangney et al., 2007).

Above and beyond their valence and arousal, different specific emotions may influence inferences about the creator in unique ways. For example, appraisals of certainty involve the degree to which a stimulus or event is predictable (Lerner & Tiedens, 2006). Compared to individuals experiencing high-certainty emotions (such as anger), individuals experiencing low-certainty emotions (such as anxiety) tend to be more cautious and engage in more systematic processing to reduce that uncertainty (Raghunathan & Pham, 1999; Tiedens & Linton, 2001). While the emotional script for anxiety involves “attending,” the emotional script for anger involves the “narrowing of attention” and “verbally attacking the cause,” which would be expected to compromise reasoning (Frijda et al., 1989; Shaver et al., 1987). Based on all the above, we advance the following proposition (see Table 2):

P2: *Expressions of a UGC creator’s emotions influence observer inferences about the creator.*

Observer Affective Reactions

Separately from any inferential processes, observers who encounter an emotional expression in UGC may experience a direct affective reaction to that expression. We use the term “affective reaction” broadly to encompass phenomena including emotions, moods, etc., which tend to be closely intertwined (Zhang, 2013). Our logic is primarily based on the principle of affect diffusion and the phenomenon of “emotional contagion” (Elfenbein, 2014; Hatfield et al., 1993). People have an innate, rapid, and often spontaneous ability to recognize and categorize emotions expressed by others (Hofelich & Preston, 2012; Izard, 1971). The mental activity in doing so can automatically activate a network of related affective concepts, such as personal memories involving the same emotion (Altarriba & Bauer, 2004; Barsalou, 2008; Niedenthal, 2007). Once activated, these

affective concepts can induce the actual experience of the emotion. To the extent that observers correctly identify an emotion expressed by a creator, the contagion mechanism would therefore be expected to produce a convergent affective response. For example, upon reading UGC about a recent “pleasant” event that made the creator feel “happy,” observers may automatically bring to mind thoughts of “pleasant” events from their own past, friends or acquaintances who are “happy,” etc. As a result of those thoughts, observers may feel “happy” themselves.

A unique form of emotional contagion applies to visual UGC formats (i.e., images or videos) in which creators can express emotional states through facial or bodily expressions. “Emotional mimicry” in face-to-face interactions has been documented in disciplines ranging from psychology and neuroscience to communications, marketing, and organizational behavior (Elfenbein, 2014). According to the “matched motor hypothesis” (Hatfield et al., 1992; Neumann & Strack, 2000), merely observing someone express emotions nonverbally (e.g., the subject of an Instagram photo smiles because she is happy) leads observers to unknowingly “mimic” the same nonverbal expressions (e.g., they begin smiling as well). At some point, observers notice their own expressions and interpret them as signals of their emotional states (e.g., “I am smiling, so I must be happy”). Notwithstanding this example, it is important to note that processes other than contagion, such as empathy or self-comparison with the observer, could instead produce divergent affective responses. For example, seeing a post from an extremely “happy” creator might make observers feel sad by comparison, and seeing an extremely “unhappy” post might make observers feel anxious. Hence, we propose the following general proposition (see Table 3):

P3: *Expressions of a UGC creator’s emotions influence observer affective reactions.*

Table 3. The Impact of Emotions in UGC on Observer Affective Reactions

Relationship between		Empirical support	Sample research opportunities
Emotional valence	Observer affective reactions	Positive and negative emotions spread to others in social media and online review contexts, presumably due to the contagion of similarly valenced emotions (Hung et al., 2024; Jha & Shah, 2019; Qiu et al., 2020). Archival evidence suggested that observer emotions do not closely correspond to expressed emotions (Zhou et al., 2023).	<i>How and when might positive emotional expressions evoke negative affective reactions from observers? How and when might negative emotional expressions evoke positive affective reactions?</i> Most prior research assumes that emotions experienced by observers “mimic” those expressed by creators, but this assumption may not always be valid. For example, expressed positive emotions may lead observers to feel negative emotions such as envy (Krasnova et al., 2015), and expressed negative emotions may lead observers to feel empathy (e.g., Allard et al., 2020).
Emotional arousal		The presence of intense emotional expressions in news articles or social media posts increased reader arousal (Berger & Milkman, 2012; Berger et al.,	<i>By what process does emotional arousal “spread” from creators to observers? Why does the level of arousal experienced by observers often diverge from that expressed by creators?</i>

		2023; see also Maiberger et al., 2024; Qiu et al., 2023). This relationship was also assumed in archival studies (Herhausen et al., 2019; Jiang et al., 2022b). In contrast, anger or swear words in consumer reviews did not necessarily increase the felt anger or arousal of review readers (Lafreniere et al., 2022; Yin et al., 2021), nor did anger and sadness in an online news context (Deng & Chau, 2021).	Although it is logical to assume that expressed arousal will spread to observers, evidence is mixed. More research is needed on individual and situational factors that influence whether contagion of arousal is amplified, dampened, or inhibited entirely.
Positive emotion and negative emotion (as separate constructs)		In an online news context (Mukherjee et al., 2022), negative emotions were observed to be more contagious than positive emotions (Mukherjee et al., 2022). However, no such difference was observed in a large-scale field experiment conducted on Facebook (Kramer et al., 2014).	<i>Which are more contagious: expressed positive emotions or expressed negative emotions? Why?</i> <i>How does the simultaneous expression of positive and negative emotions influence observer affective reactions?</i> • Additional investigation should explore the mixed evidence for negativity bias and consider other contexts and potential boundary conditions. For example, observers may be motivated to defend their pre-existing beliefs (Lei et al., 2023) or to prolong their current affective states (“mood maintenance”—Handley et al., 2004). • Expression of emotional ambivalence (“mixed feelings”) is common in UGC (Schlosser, 2011; Yin et al., 2023). Prior work has considered ambivalence from a user perspective (Lakhiwal et al., 2023), but we know little about the impact of ambivalent emotional expressions on observers.
Discrete emotions		Discrete emotions were assumed to activate the same emotions in observers on social media (Bachura et al., 2022). Among specific negative emotions, fear and anger were more contagious than sadness in some studies (Nguyen et al., 2020), whereas sadness was more contagious than anger in other studies (Li et al., 2021).	<i>When and why do discrete emotions in UGC activate the same (vs. different) emotions in observers?</i> <i>What important factors underlie the “virality” of an expressed emotion?</i> • As a proxy for the actual, “felt” emotional reactions of observers to UGC, most archival studies used the emotions expressed by those observers in their own subsequent content. Given the prevalence of emotional regulation (Wadley et al., 2020), this approach may often be invalid, and thus existing evidence does not preclude the possibility of divergence (see also above on valence-related future opportunities). • Conflicting results concerning the relative virality of different emotions suggest the presence of important contextual moderators. For example, emotions may spread more quickly on platforms where facial expressions, body language, etc., are readily observable (Lin et al., 2021).

UGC Context

Given that emotional expressions never occur in a vacuum, it is important to acknowledge that their impact on observers may depend heavily on contextual factors. In fact, context plays a powerful role in both the affective and cognitive components of emotion (Barrett et al., 2011; Elfenbein, 2014; Hess & Hareli, 2016). For example, emotional contagion based on “primitive mimicry” was once assumed to be automatic, but more recent evidence suggests that its operation varies across contexts (Goldenberg & Gross, 2020; Parkinson, 2011).

Based on the tripartite relationship underlying TRE and evidence regarding the first three propositions (Tables 1-3), we propose that three contextual factors are especially influential: (1) observer-creator relationship, (2) observer motivation, and (3) UGC modality. It is noteworthy that each of these factors is either especially salient or operates differently in UGC environments, compared to the offline (in-person or face-to-face) environments that have dominated prior research. First, observers and creators in UGC are often complete strangers who do not directly interact. This is not the case in many offline communication settings, including the settings that have

received most prior attention: group decision-making, social diffusion, negotiation, leadership, etc. (van Kleef & Côté, 2022). Second, consumption of UGC tends to be driven by specific motivations related to the target of the content (e.g., knowing more about a product before making a purchase decision). In contrast, communication in offline settings may involve a wide variety of objectives that may be individual, shared, or competitive (Elfenbein, 2014). Finally, different UGC modalities (text, images, videos, etc.) vary drastically in terms of richness and observer engagement. Offline settings also vary but tend to be at least modestly engaging by nature. As a result, this issue has received relatively little attention in the study of offline emotion communication, with the prominent exception of research on nonverbal emotional “cues” such as facial expressions (Peters & Kashima, 2015). We develop the three factors below.

Observer-creator relationship: Among the defining properties of any social relationship are closeness and similarity (Berscheid et al., 1989; Simons et al., 1970). Closeness refers to the interdependence between two parties and can vary from close friends or “followers” to distant friends or complete strangers. Similarity refers to shared group memberships and in-group vs. out-group affiliations based on demographics, personality, or behavior. Closeness and similarity may or may not co-vary in UGC settings; for example, an online reviewer and reader may be total strangers but nonetheless similar as a result of their overlapping product interests and perspectives (as a prior and potential customer).

Closeness and similarity will logically impact preexisting beliefs, opinions, and expectations held by observers. Hence, we propose that the observer-creator relationship impacts all three pathways in TRE. Regarding the first pathway (inferences about the target), communication partners tend to exhibit more trust and liking when they are socially close and/or similar (Heider, 1982). Accordingly, UGC observers in a close or similar relationship with the creator will be more likely to deem emotional expressions diagnostic and genuine, and thus useful for inferences about the target. A similar logic applies to the second pathway (inferences about the creator). People are generally more motivated to learn about others with whom they share common affiliations (Park & Rothbart, 1982); accordingly, observers who perceive high similarity with creators will be more interested in understanding the reasons behind their emotional expressions (Hess & Hareli, 2015). Regarding the third pathway (affective reactions), social closeness is a well-known catalyst of affect contagion in general, and especially contagion driven by “primitive mimicry” (see Fischer & Hess, 2017 for a review of related evidence).

Observer motivations for consuming UGC: This factor captures the objectives that observers have in mind for consuming emotion-embedded content. At a high level,

motivations for consuming UGC will vary based on observer traits (such as need for cognition, openness to experience, etc.; see Cacioppo et al., 1996; Homan et al., 2008). At a lower level, motivations will vary as a function of observer interest in the content and perceptions of its relevance (Petty et al., 1981), which are both influenced by prior knowledge, experience, or beliefs about the target. Before reading an emotional product review, for example, shoppers may or may not have well-formed opinions about the product, but they will probably hold at least tentative beliefs based on the product description, average rating, etc. (Lei et al., 2023; Yin et al., 2016). Observer motivations will also be shaped by situational factors. In particular, UGC can be consumed primarily for utilitarian reasons involving the conscious pursuit of an objective, but it can also be consumed for hedonic or spontaneous reasons (Dhar & Wertenbroch, 2000). For example, review readers are typically in a utilitarian mindset when they are searching for information to inform a purchase, while social media users are often in a hedonic mindset when they are “passing time” to entertain themselves.

When observers are motivated to process UGC in a deliberative, reason-based manner, they will have an incentive to think through the meaning and implications of the emotional expressions they encounter (van Kleef, 2009). Logically, therefore, they will engage more actively in the two inferential pathways of TRE. On the other hand, observers who are not motivated to process UGC in a deliberative manner will lack such an incentive, and their responses would be expected to result primarily from the affective pathway.

UGC modality: This factor captures the means by which emotions are communicated in UGC. As such, it primarily reflects the characteristics of the delivery platform. Depending on the platform, creators may express their emotions through written or spoken language via text and audio, facial expressions or body language via images or video, symbols such as emojis and GIFs, etc. Naturally, different modalities vary dramatically in properties that can impact how observers process emotion (Grewal et al., 2021). Two especially relevant properties are *modality richness* (support for transmitting multiple cues simultaneously and engaging multiple senses) and *synchronicity* (the immediacy of transmission and feedback) (Daft & Lengel, 1986; Dennis et al., 2008). For example, live-streamed videos tend to be high in both richness and synchronicity, whereas online reviews tend to be low in both properties.

Consumption of UGC requires more cognitive resources when it is delivered in modalities high in richness and synchronicity (Sundar et al., 2021). Therefore, observers in such modalities have fewer resources available to make sense of emotional expressions or generate corresponding inferences about the target or creator, while observers in lean

or asynchronous modalities have more resources available to do so. Therefore, the two inferential pathways should play a larger role for observers in the latter context, compared to those in the former context.

In summary, we have identified three UGC-specific contextual factors that moderate the operation and relative impact of the three pathways in TRE. Given that these factors are clearly not exhaustive, we offer the following broader propositions (see Table 4):

P4: *UGC context moderates the effect of emotional expressions on observer inferences about the target.*

P5: *UGC context moderates the effect of emotional expressions on observer inferences about the creator.*

P6: *UGC context moderates the effect of emotional expressions on observer affective reactions.*

Observer Behaviors Toward the Target

For many parties that utilize UGC (firms, platforms, influencers, etc.), a primary objective is to influence the behavior of observers (purchase of a product, endorsement of an idea, compliance with a request, etc.). Hence, an intuitive but important proposition of TRE is that the inferences observers make about the target of an emotional expression influence their subsequent behaviors toward that target. According to the theory of reasoned action (Fishbein, 1979) and other prominent attitude theories, one's behavior toward a target is primarily determined by beliefs regarding its underlying attributes. To the extent that observer inferences derived from emotional expression affect those beliefs positively or negatively, they should therefore logically affect behaviors toward the target. Accordingly, we propose the following (see Table 5):

P7: *Inferences about the target based on emotional expressions in UGC affect observer behaviors toward the target.*

Table 4. Contextual Variables Moderating the Impact of Emotions in UGC on Observer Inferences and Affective Reactions

Contextual variable	Empirical support	Sample research opportunities
Creator-observer relationship	Emotional expressions in social media influenced observer inferences about the target (a brand) to a greater extent when the creator and the observer had similar values (Kermani et al., 2024). Among close friends on social media (vs. distant friends), emotional expressions were more likely to produce affective reactions than inferential processes (Qiu et al., 2023).	<i>How does the creator-observer relationship influence the relative strengths of different pathways? To what extent do relationship similarity and closeness influence each pathway differently?</i> The results from Qiu et al. (2023) and Kermani et al. (2024) may help explain why studies involving friends tend to focus on affective reactions (e.g., Berger & Milkman, 2012; Stieglitz & Dang-Xuan, 2013) while studies involving strangers tend to focus on inferential processes (e.g., Lafreniere et al., 2022; Rocklage & Fazio, 2020; Yin et al., 2017). However, the generalizability of these results is unclear. More broadly, systematic research is needed to understand the distinct mechanisms by which creator-observer similarity and closeness moderate each pathway.
Observer motivation for consuming UGC	In consumer review settings, the impact of emotional expressions on inferences about the creator's effort, rationality, or trustworthiness was stronger for utilitarian products than hedonic products (Rocklage & Fazio, 2020; Yin et al., 2017). Contagion of emotions on social media was less likely when users processed WOM more deliberately (Herhausen et al., 2019).	<i>Which observer motivations are most directly impacted by the presence of emotions in UGC?</i> <i>How does observer motivation change the relative strengths of different pathways?</i> Across individuals and occasions, motivations for consuming UGC vary dramatically. The relative impact of emotional expression on these motivations is an open question, as is the relative impact of the motivations on inferential and affective responses.
UGC modality	No empirical studies available.	<i>Do the main principles of TRE apply equally well to text-based, image-based, and video-based content?</i> <i>How do richness, synchronicity, and other UGC modality factors impact each pathway?</i> The vast majority of research on emotional expression in UGC has involved text-based modalities (for exceptions, see Berger et al., 2022; Lin et al., 2021; Park et al., 2023). Given the emergence and popularity of richer and more synchronous modalities such as video live-streaming, research in those modalities is sorely needed.

Table 5. The Impact of Observer Inferences about the Target of Emotions in UGC on Behaviors Toward the Target

Relationship between		Empirical support	Sample research opportunities
Inferences about the target	Behavior toward the target	In consumer reviews, the use of positive (negative) emotional language to describe product attributes positively (negatively) affected purchase likelihood (Berger et al., 2022; Ludwig et al., 2013; Ordenes et al., 2017; von Helversen et al., 2018; Yin et al., 2021; Yu et al., 2023).	<i>Do inferences about the target underlie the observed effects? If so, which inferences are most responsible, and how do they exert their influence? How much conscious deliberation is involved?</i> Although P7 has obtained broad indirect support in e-commerce settings, very few studies have directly measured specific inferences about the target, and additional research is needed. Preliminary evidence suggests that the impact of inferences about the target on behavior occurs rapidly and with little deliberation (Yin et al., 2021). However, much more research is needed to explore the underlying process and its boundary conditions.

Table 6. The Impact of Observer Affective Reactions on Behaviors Toward the Target

Relationship between		Empirical support	Sample research opportunities
Valence	Behavior toward the target	Studies involving online petitions and consumer reviews have assumed that positive (negative) emotional reactions result in approach (avoidance) behaviors and found evidence consistent with that assumption (Chen et al., 2019; Ludwig et al., 2013). However, the causal link has not been tested directly.	<i>Does the valence of observer affective reactions underlie the effect of emotional valence on observer behavior toward the target?</i> <i>Do affective reactions always produce a valence-consistent effect on behavior?</i> Cleverly designed research could explore the absolute and relative impact of affective reactions on behaviors toward the target, and it could examine cases where valence-inconsistent effects might be expected (e.g., anger).
Arousal		No empirical studies available.	<i>How (if at all) does the arousal of observer affective reactions influence behavior toward the target?</i> The felt arousal of observers may or may not directly influence "approach" or "avoidance" behaviors toward the target. However, arousal has an "energizing" function (see next section) that may influence a range of related behaviors.
Positive affect, negative affect		Negative emotions in online petitions and consumer reviews had a greater effect than positive emotions (Chen et al., 2019; Ludwig et al., 2013), but emotional reactions were not directly assessed.	<i>Is observer behavior toward the target influenced more by negative affective reactions than positive affective reactions? Why or why not?</i> It is well known that negative UGC attracts more attention than positive UGC (Lei et al., 2023). Future research could explore whether this negativity bias also manifests in the impact of felt emotions on behaviors toward the target.
Discrete affective reactions		Qualitative evidence revealed that anger expressed in social media mobilizes protest and other antagonistic behaviors (Toubiana & Zietsma, 2017). A meta-analysis of consumer-firm interactions found that love and happiness (but not other positive emotions) increased purchase-related behaviors, while anger (but not other negative emotions) reduced purchase-related behaviors (Kranzbühler et al., 2020).	<i>How and why do the specific emotional reactions of observers differentially affect their behavior toward the target?</i> Building on very limited findings thus far, more research is needed to establish links between specific observer emotions and specific subsequent behaviors toward the target. The application of appraisal-based approaches (Frijda, 1986; Lerner & Keltner, 2000) would be especially fruitful.

Affective experience is by itself an important driver of human behavior (Zajonc & Markus, 1982). Because affective reactions are often relatively automatic, low-level, and uncontrolled (Spielman et al., 1988; Zajonc, 1984), they can influence attitudes and behavior without requiring thought or deliberation (Winkielman et al., 2005). Positive affective reactions activate the behavioral approach system, which is sensitive to rewards and causes an individual to approach goals and experiences, whereas negative affective reactions activate the behavioral inhibition system, which is sensitive to punishments and results in avoidance behaviors (Carver & White, 1994; Chen & Bargh, 1999; Erdle & Rushton, 2010). Hence, TRE proposes that affective reactions of observers to an emotional expression in UGC can directly impact behavior toward the target of that expression in a valence-consistent manner.

However, specific emotional reactions also influence behavior in ways above and beyond their valence (Elliot et al., 2013). An illustrative example is anger, which—despite being negatively valenced—is associated with approach-oriented motivations and behaviors that are typical of joy and other positive emotions (Carver & Harmon-Jones, 2009; Harmon-Jones, 2003; Harmon-Jones et al., 2017). Logically, therefore, any specific emotions that underlie observer affective reactions may independently influence their behaviors toward the target. Combining the above, we propose the following (see Table 6 above):

P8: *Affective reactions of observers to emotional expressions in UGC influence their behaviors toward the target.*

Observer Behavior Toward the UGC

Our emphasis thus far has been on how emotional expressions in UGC affect observer behaviors *toward the target* of those expressions. However, TRE also considers effects on behaviors *toward the UGC in which the expressions appear*, such as reading and attending, engaging, sharing, etc. Focusing on one of the three major pathways in the model, we propose that observer affective reactions to emotional expressions directly influence their behaviors toward the UGC. Our proposal is based on the principle that emotional arousal serves an “energizing” function that directly induces action (Duffy, 1957; Heilman, 1997): Low arousal is characterized by a state of relaxation and deactivation of the autonomic nervous system, whereas high arousal is characterized by activity and activation. Applied to the current setting, it is reasonable to expect that this energizing function will catalyze behaviors toward the UGC.

TRE makes no predictions regarding the overall effect of the valence of observer affective reactions, as any such effect is likely to depend heavily on the specific behavior considered. For example, a robust finding in the viral marketing literature is that negative emotional content increases attention and

consumption but decreases sharing (Berger & Milkman, 2012). As before, however, we expect that the discrete emotions experienced by observers will influence their behavior in ways beyond their arousal and valence. Our logic is again based on the notion that the specific cognitive appraisals associated with a given emotion influence subsequent judgments (Lerner & Keltner, 2000; Tiedens & Linton, 2001). For example, observers who experience emotions defined by high uncertainty (such as fear or anxiety) may be motivated to consume more content to cope with that uncertainty, whereas observers who experience emotions defined by low uncertainty (such as anger) may lack such motivation. The effect of “social” emotions (such as shame, pride, or gratitude) is likely to depend on whether they focus on the self or others (Greenbaum et al., 2020). Taken together, we propose the following (see Table 7):

P9: *Affective reactions of observers to emotional expressions in UGC influence their behaviors toward the UGC.*

UGC Evaluations

TRE also proposes that observers’ inferences about the creator impact their behaviors toward the UGC. Importantly, however, we propose that this impact is indirect and primarily driven by *evaluations of the UGC itself*. Although it is undoubtedly the case that perceptions regarding the “helpfulness” of an online review, the “authenticity” of a news-related tweet, etc., play important roles in engagement and sharing, little research has addressed this role directly (c.f. Yin et al., 2023). We focus on evaluations regarding diagnosticity and credibility, both of which tend to be highly variable and uncertain in online environments (Zloteanu et al., 2021). Diagnosticity captures the extent to which a piece of UGC facilitates decision-making related to the target (Lynch et al., 1988; Mudambi & Schuff, 2010), whereas credibility captures the extent to which a piece of UGC is considered true, valid, and trustworthy (Tseng & Fogg, 1999).

Our proposition is based on the logic that creators are naturally associated with the content they create and that judgments of the former will thus tend to align with judgments of the latter. Over time and experience, people learn to associate patterns of behavior with specific underlying traits (Molden & Dweck, 2006). For example, they learn to associate high levels of task performance with high levels of effort (e.g., Skinner et al., 1988; Weiner & Kukla, 1970), rationality (Hsee et al., 2003; Pham, 2007), and/or expertise (Chaiken et al., 1996). Given that observers recognize UGC to be the output of its creator, they should therefore evaluate the UGC more favorably when they perceive the creator to be more diligent, rational, or knowledgeable. More broadly, we propose the following (see Table 8):

P10: *Inferences that observers make about creators based on emotional expressions in UGC influence their evaluations of the UGC.*

Table 7. The Impact of Observer Affective Reactions on Behaviors toward the UGC

Relationship between		Empirical support	Sample research opportunities
Valence	Behavior toward the UGC	In online news and social media, valence of UGC content was only weakly related to consumption and sharing (Berger & Milkman, 2012; Berger et al., 2023; Stieglitz & Dang-Xuan, 2013).	<i>When and how does the valence of observers' affective reactions influence their behaviors toward the UGC?</i> Past work tends to use the valence of UGC content as a proxy for the valence of observer affective reactions. Future research should measure (or manipulate) affective reactions directly, while expanding the repertoire of behaviors examined.
Arousal		Felt arousal of UGC observers has been argued and shown to enhance their attention to, liking of, and/or sharing of UGC in online news (Berger & Milkman, 2012; Berger et al., 2023), online word-of-mouth (Herhausen et al., 2019; Maiberger et al., 2024), and social media (Stieglitz & Dang-Xuan, 2013).	<i>Does the felt arousal of observers account for the effects of expressed arousal on their behaviors towards UGC?</i> <i>Under what conditions might felt arousal fail to motivate such behaviors?</i> - Like valence, observer arousal has rarely been measured directly, but rather assumed to match the arousal indicated by the UGC content. This assumption merits scrutiny and future research. - Moreover, mixed findings on the broader role of arousal in sharing (see Prowten et al., 2024) suggest an opportunity to identify important boundary conditions.
Positive affect, negative affect		In contexts including live streaming (Lin et al., 2021), social media posts (Gour et al., 2022), and online news (Mukherjee et al., 2022), both positive emotions and negative emotions enhanced content engagement and sharing.	<i>Do positive or negative affective reactions elicit more engagement with UGC, under what situations, and why?</i> The cited research has explored this question only indirectly and has yielded conflicting results. Direct investigations are needed to better understand the link between valenced affective reactions and engagement, as well as potential moderators.
Discrete affective reactions		Discrete emotions shared on Twitter exhibited differential impacts on consumption and sharing (Bachura et al., 2022). In the context of microblogging and live streaming, the most shared content involved fear (Qiu et al., 2020) or sadness (Li et al., 2021).	<i>How and why do specific affective reactions motivate specific forms of behavior toward UGC?</i> Although conflicting prior results may reflect differences in the relative activation of emotions across studies, they also suggest that the same emotion can play distinct roles at different stages of behavioral response (Qiu et al., 2020). Theory-based investigations that isolate specific emotions and behaviors are sorely needed.

Table 8. The Impact of Observer Inferences about the Creator on UGC Evaluation

Relationship between		Empirical support	Sample research opportunities
Inferences about the creator	UGC diagnosticity	In user review and social media settings, UGC was perceived as more helpful to the extent that its creator was perceived as exerting more effort (Yin et al., 2014, 2017), more rational (Hong et al., 2016; Yin et al., 2021), and more trustworthy (Craciun et al., 2020).	<i>Do more positive inferences about the creator always enhance the perceived diagnosticity of UGC?</i> Although this association has received broad support, exceptions are worth investigating. In some domains, for example, observers may perceive "expert" creators to have unique perspectives or preferences that do not align with their own.
	UGC credibility	The perceived effort of online news authors was positively associated with their perceived credibility (Deng & Chau, 2021).	<i>Does greater perceived effort always enhance the perceived credibility of UGC?</i> <i>What other kinds of inferences about the creator influence UGC credibility?</i> - In contexts where "spontaneity" is expected, perceived effort may not benefit (or may even hurt) credibility. - The impact of other inferences about the creator has received little attention. Promising candidates for investigation include inferences of authenticity, benevolence, and expertise.

Table 9. The Impact of UGC Evaluation on Behaviors Toward the UGC

Relationship between		Empirical support	Sample research opportunities
UGC evaluation	Behavior toward the UGC	The perceived credibility of news had a positive effect on readers' intention to read, like, comment, and share (Deng & Chau, 2021). Consumers who deemed a set of online reviews diagnostic and credible were less interested in seeing additional reviews (Yin et al., 2023).	<i>For specific types of behavior toward UGC, what types of evaluation have the most impact?</i> <i>Are evaluations of UGC always a primary driver of their behavior towards it?</i> - Perhaps as a result of its compelling logic, this proposition has received little direct investigation. Future research should verify the proposition and consider the relative importance of specific UGC evaluations (e.g., credibility vs. diagnosticity) on specific behaviors (e.g. liking vs. sharing). - Future research should also consider boundary conditions of the evaluation-behavior correspondence. For example, social media users may share highly nondiagnostic or noncredible posts in order to "expose" or ridicule them.

Once observers have formed an evaluation of the UGC, that evaluation will logically influence their behaviors toward it. In particular, observers who deem content to be diagnostic and credible should be motivated to spend time consuming that content rather than looking elsewhere. They should also be more motivated to endorse ("like") the content, given its greater informational value and utility. Finally, they should be more motivated to share the content, not only as a means of helping others but also as a means to create positive impressions and build "social capital" (Green et al., 2023; Schlenker & Pontari, 2000). Thus, we propose (see Table 9):

P11: *Observers' evaluations of UGC influence their behaviors toward the UGC.*

Guidelines for Future Research on Emotions in UGC

As a novel theory describing multifaceted and evolving phenomena, TRE itself stands to benefit from further exploration and development. In what follows, we supplement the opportunities identified above by considering how researchers might extend, refine, and apply the model to improve understanding of expressed emotions in UGC.

Dynamics Across Pathways

Consistent with other theories of emotion processing, our discussion thus far has assumed that three major pathways in TRE operate independently. Relaxing this assumption yields a more dynamic model, illustrated in Figure 4. As indicated by dashed arrows in the figure, the dynamic model allows inferences and affective reactions to influence one another, and it allows UGC evaluations to moderate two pathways.

From Inferences to Affective Reactions

The logic underlying Proposition 3 of TRE (i.e., that emotional expressions influence observer affective reactions) relies heavily on emotional contagion, which is a largely automatic process. Here, we suggest that affective reactions may also arise from a more deliberative process of social appraisal (Peters & Kashima, 2015). Having engaged in "reverse engineering" to understand the underlying appraisals that may have caused a creator's expressed emotion, observers may generate their own appraisals and experience their own corresponding emotions. In an online review, for example, the expression "Playing this game is exciting!" may lead readers to infer that the game involves elements of challenge and uncertainty, and that inference may, in turn, produce its own affective reaction.

Given that social appraisal often leads to convergent affective responses, the emotions experienced by observers as a result of their inferences will often resemble those expressed by the creator. However, social appraisal can also lead to divergent affective responses if creators and observers either: (1) form different appraisals of the same stimuli or (2) possess different lay theories of emotion (Elfenbein, 2014). Extending the example above, one review reader may react positively to the expression and feel excited herself because she likes being challenged, while another reader may react negatively because he dislikes uncertainty.

Although prior evidence exists for both convergent and divergent observer responses (see Table 3), far less attention has been devoted to the divergent case. Many investigations have focused on demonstrating that emotions "spread" through UGC rather than identifying precise underlying mechanisms (Goldenberg & Gross, 2020). As such, they have relied on emotional contagion as a broad theoretical lens and overlooked indirect mechanisms like social appraisal. More research is needed to understand the diverse ways through which affect expressed by creators can produce affect in observers.

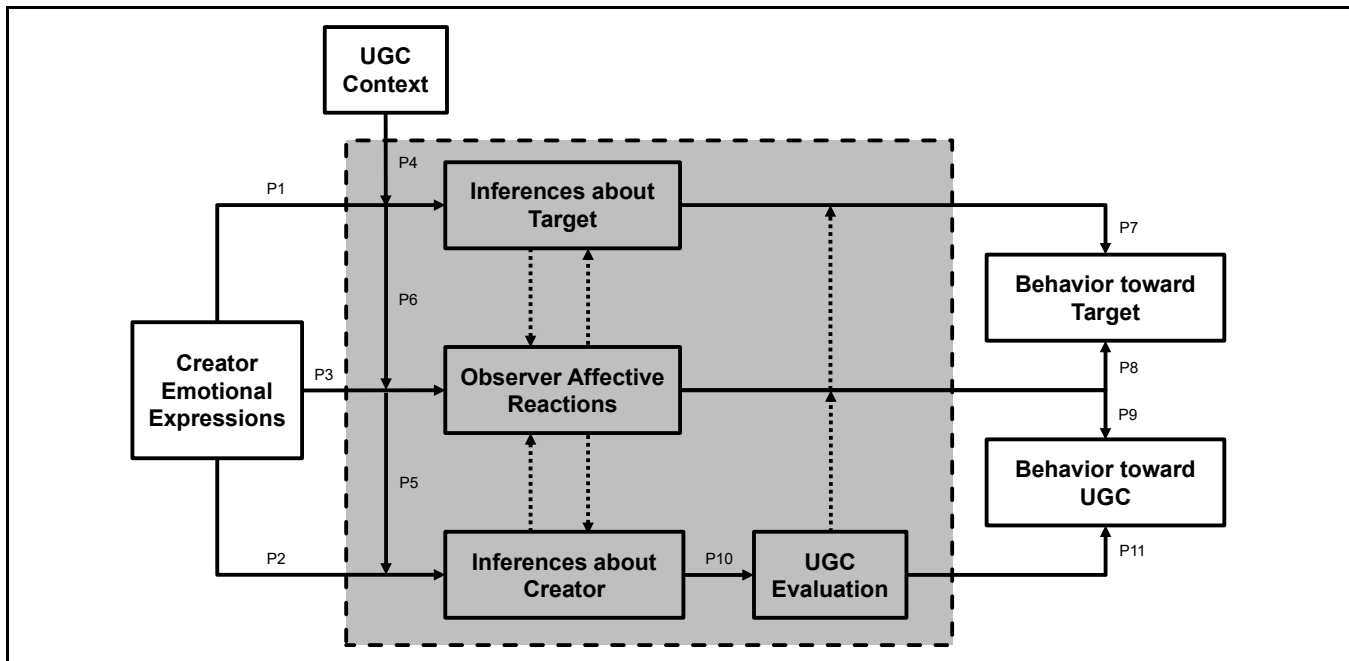


Figure 4. Dynamic Model of TRE Theory

From Affective Reactions to Inferences

In the dynamic model, observer affective reactions are allowed to influence both inferential pathways. Our reasoning is based on the principle that people treat their momentary feelings as an input to judgments at hand, even when those feelings are logically irrelevant. This principle underlies well-known affective concepts, including the “feelings-as-information” and the “How do I feel about it?” heuristics (Higgins, 1998; Schwarz, 2012). Applied to our setting, observers who experience affective reactions to an emotional expression may attribute their affect to the target or the creator, whichever is currently in mind. Having done so, they may adjust their inferences about the target or creator accordingly. For example, a social media post full of angry expressions may cause readers to feel angry themselves as a result of emotional contagion, and they may then use that anger as a basis for negative inferences about the author.

Suggestive but indirect evidence for this dynamic influence is provided by Qiu et al. (2023), who argued that “empathic” responses to social network messages increase persuasiveness because perceived similarity with the creator enhances liking. However, direct evidence is lacking. An important objective of future research should be to identify precise mechanisms by which observer affective reactions invoke inferences regarding the target or creator. When affective reactions take the form of discrete emotions, for example, the cognitive appraisals that underlie those emotions may “carry over” to

influence subsequent judgments (Lerner & Keltner, 2000). To our knowledge, no research has tested this possibility.

UGC Evaluations as a Moderator

In the main model, UGC evaluations mediate the pathway through which observer inferences about the creator influence behaviors toward the UGC. The dynamic model expands this role by allowing UGC evaluations to moderate both of the other pathways: inferences about the target and affective reactions.

Regarding the first pathway, the impact of inferences about the target on subsequent behaviors logically depends on the *certainty* of those inferences—i.e., the subjective sense of confidence and conviction with which they are held (Tormala & Rucker, 2007, 2018). People with high levels of belief certainty are likely to act immediately on those beliefs rather than deliberating further or seeking out more information (Fazio & Zanna, 1978; Tormala & Rucker, 2022). When beliefs are formed on the basis of new information, key drivers of certainty include the completeness, accuracy, and importance of that information (Tormala, 2016). Applied to our setting, observers who judge UGC to be more diagnostic or credible should feel more certain about the inferences they form on the basis of that UGC. As a result, the impact of those inferences on behaviors toward the target should be stronger. Thus far, IS research has paid little attention to this possibility. A notable exception is Yin et al. (2023), who demonstrated

that the perceived diagnosticity and credibility of product reviews influence confidence in product-related beliefs and (as a result) the timing of subsequent behaviors. Further investigation in other contexts is sorely needed.

Second, the dynamic model allows UGC evaluations to moderate the effects of observer affective reactions. In contrast to the traditional view of emotions as relatively automatic and immediate drivers of behavior, modern theory and evidence support a more nuanced view (Barrett et al., 2007). An important principle of the modern view is that affective processing can be weakened, altered, or overridden by deliberative processing (Forgas, 1995; Loewenstein et al., 2015; Pham, 2004). Applying this principle to the current setting, observers who deem UGC to be more credible and diagnostic should be more willing to let their affective reactions to expressed emotions inform their opinions of the target. To the extent that readers become skeptical or suspicious of an “angry” negative review, for example, any negative affect induced by its angry content is less likely to harm their product evaluations. To our knowledge, no research has comprehensively explored this idea. More generally, we call for additional research on the subtle interplay between affective reactions and evaluations in the UGC context.

Applying TRE

TRE is intended as a “grand theory” (Leidner & Gregory, 2024) that explains the diverse impacts of emotional expressions in UGC on diverse observer behaviors across diverse settings. As such, it opens a “black box” that encompasses multiple underlying processes and boundary

conditions. The model’s emphasis on breadth necessitates a trade-off with precision and falsifiability (von Nordenflycht, 2023); thus, we encourage researchers applying it to develop and test precise hypotheses that apply to their specific settings of interest. In many cases, it will be feasible to consider all major pathways and their interplays. At a minimum, however, we stress the need for researchers to clearly identify—and justify—the outcome(s) and pathway(s) that they deem most relevant to their investigation.

As a representative application, we provide a critical assessment of Yin et al. (2021), which was situated in an online review setting. Our intention is not to critique that work but rather to illuminate opportunities for future research that are unlocked by overlaying TRE. Yin et al. proposed that expressions of anger toward a retailer in online reviews influence reader responses in two distinct ways (Figure 5a illustrates their theoretical model). On the one hand, expressions of anger lower perceptions of review helpfulness, due to inferences that the reviewer was less rational. This effect and the underlying mechanism were supported by multiple experiments. On the other hand, expressions of anger reduce willingness to purchase from the retailer, due to unfavorable impressions evoked by the salient negative emotion. The effect was confirmed in multiple experiments, but the underlying mechanism was not assessed.

Application of TRE to the investigation allows for a novel perspective that suggests opportunities for additional exploration and insight. Figure 5b illustrates how the model might be adapted to this research setting, and Table 10 provides specific ideas for expanding the investigation based on principles underlying TRE.

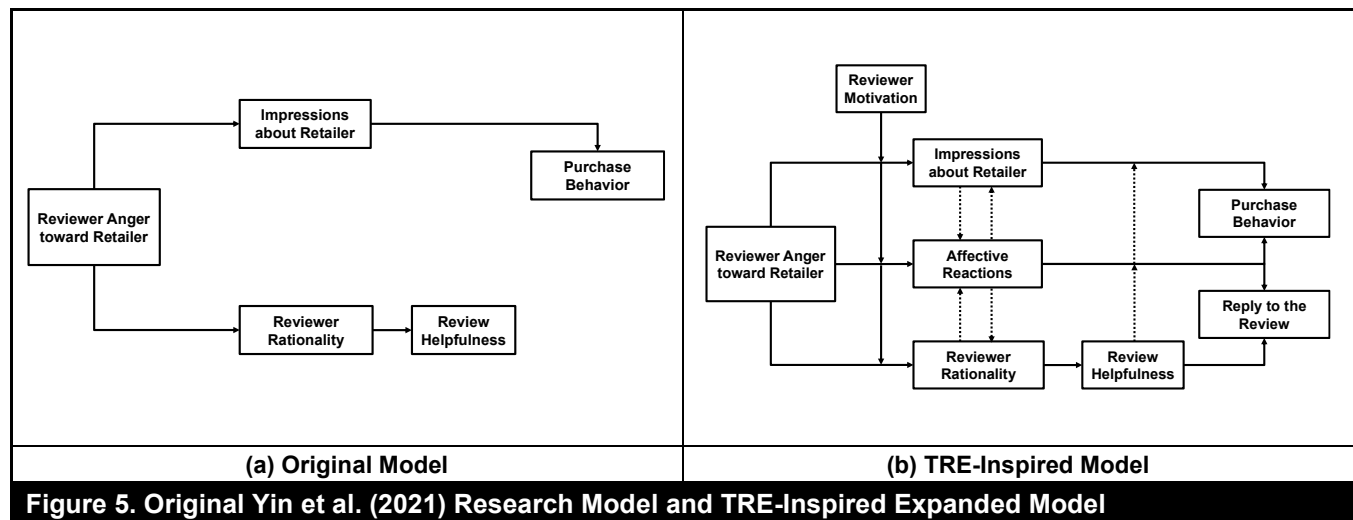


Figure 5. Original Yin et al. (2021) Research Model and TRE-Inspired Expanded Model

Table 10. Yin et al. (2021) Original Investigation and Opportunities for Future Research

#	Original findings	TRE-inspired opportunities for expansion
1	Observer affective reactions did not independently mediate the effect of expressed anger on purchase behavior or perceived review helpfulness.	<i>When do observer affective reactions to angry reviews “spill over” to inferences about the retailer and subsequent purchase behavior? When do they “spill over” to perceptions of the reviewer and the review?</i> <i>Are observer affective reactions less influential in review contexts? When might they be more influential?</i> • If affective reactions help to explain the effects of expressed anger, then the “inference-heavy” emphasis of this and other online review research may reflect an omitted variable bias that results in an incomplete picture of the process. • Affective reactions may be less relevant for consumers seeking to make a thoughtful and informed purchase. Alternatively, their impact might be suppressed due to the lower perceived helpfulness of angry reviews. If so, then greater impact would be expected for other, more “helpful” emotions (e.g., anxiety—Yin et al., 2014).
2	Reviewer anger influenced reader purchase behavior through favorable/unfavorable impressions about the retailer. The effect was obtained even for “unhelpful” reviews and appeared to be largely automatic.	<i>Why does anger in reviews lead to unfavorable impressions about the retailer? How much are affective reactions involved in the process?</i> We know little about the automatic vs. deliberative nature of the pathways in TRE. If negative affective reactions to reviewer anger are more automatic than inferential processes, then it may be difficult to “correct for” those negative reactions, even if there is a logical basis for doing so. This and other possible explanations merit investigation.
3	Reviewer anger influenced perceptions of review helpfulness through inferences about reviewer rationality. However, review helpfulness was not a primary determinant of purchase behavior.	<i>How do inferences of reviewer rationality influence purchase behavior?</i> Even if rationality inferences do not <i>directly</i> influence purchase behavior, they might moderate the influence of impressions about the retailer (see above). Moreover, rationality inferences influence behaviors toward the review (commenting, seeking more reviews, etc.—Yin et al., 2023; Zheng et al., 2024) that might in turn influence purchase behavior.

Expanding the Conceptualization of Emotional Expressions and UGC Context

Building on the framework presented here, future research might expand TRE by broadening its conceptualization of key constructs. One promising opportunity for expansion would involve a more rigorous and nuanced classification of emotional expressions. For example, the notion that positive and negative emotions represent independent constructs (rather than opposite ends of a valence continuum) gives rise to the construct of “emotional ambivalence”—the coexistence of positive and negative emotions (Schneider & Schwarz, 2017). When UGC contains expressions of “anxious anticipation” of a future event, “nostalgia” for the past, “bittersweet” sentiments, etc., what are the implications of such ambivalence for the pathways in TRE? We know little in general about how UGC observers react to ambivalent emotions (Lakhiwal et al., 2023), and this is a fertile area for refining the model.

Emotions can be characterized by the source to which they are directed (Zhang, 2013): Expressions of *emotional states* are directed at the experience of the expressor (e.g., “I am excited to play this game!”), while expressions of *emotional*

evaluations are directed at emotion-eliciting properties of the target (e.g., “Playing this game is exciting!”). Given their different emphases (and holding other factors constant), it is reasonable to conjecture that the two types of expression will be processed differently. For example, the greater salience of the creator (vs. the target) in expressions of emotional states suggests that they are more likely to activate inferences about the creator. Rather than focusing on emotional states or emotional evaluations in isolation (or treating them as interchangeable), we advise researchers applying TRE to consider their distinct implications.

Another promising opportunity for refining the model would involve the introduction of other important contextual moderators. For example, people hold general beliefs about the types and degrees of emotion that are common in a given situation (Ekman, 1993; Hochschild, 2012; Shields, 2005). Before consuming a piece of UGC, observers may have expectations regarding the emotional expressions it is likely to contain, and these expectations may influence whether they perceive the expressions it does contain to be appropriate and “authentic” (i.e., “real” or “true”—Cheshin, 2020; Lenton et al., 2013). We speculate that these perceptions affect all three pathways in TRE. First, the

perception that an expression is inappropriate or inauthentic is likely to elicit negative affective reactions (Hess & Hareli, 2015; van Kleef, 2009). Second, the expression may be discounted as a source of credible information (Hess & Hareli, 2016), reducing its impact on inferences about the target. Third, observers may infer that the creator is abnormal, emotionally disturbed, etc. (Shields, 2005; Szczurek et al., 2012). Although a few prior investigations have considered observer expectations (e.g., Jha & Shah, 2019; Peng et al., 2020), more research is needed to situate perceived appropriateness, authenticity, and related constructs within the framework of our model.

Beyond TRE

Moving forward, opportunities exist to extend the boundaries of TRE theory by considering additional pathways, relaxing assumptions, or adopting different perspectives. Concerning the first of these, the two inferential pathways in TRE (inferences about the creator and about the target) capture only a subset of the inferences likely to impact the processing of emotional UGC. Other potentially important inferences include those regarding the content itself. Building on the discussion above, for example, observers are likely to generate inferences of authenticity and appropriateness, based on the extent to which emotional expression (and the particular forms of expression they encounter) is encouraged vs. discouraged by the platform and user community, is common vs. uncommon, etc.

By assumption, TRE excludes situations in which creators are closely associated with the target of their emotional expressions. In those situations, beliefs about creator motivation are likely to play a critical role in shaping observer reactions. In the crowdfunding domain, for example, research suggests that emotion-based inferences about a “pitch” creator directly influence reactions to the pitch and willingness to fund the project (e.g., Allison et al., 2022; Jiang et al., 2019, 2023).

Also by assumption, TRE theory does not address the ever-increasing proportion of online content generated by AI or nonhuman “bots” (chatbots, social bots, spambots, etc.) (Salge et al., 2022). A rich literature stream examines how bots and other machine-like entities are socially perceived, uncovering both similarities and differences with traditional (human) social perception (Blut et al., 2021; Han et al., 2023; Schanke et al., 2021; Waytz et al., 2014). Given that emotional experience is generally considered to be a “uniquely human” characteristic, it is likely that observers

interpret emotional expressions in a different manner when they believe those expressions to be generated by AI or bots vs. humans (Han et al., 2023). Testing the major propositions of TRE in the context of AI-generated content (AIGC) would provide novel insights.

Given that TRE was developed entirely from the perspective of content *observers*, a rich opportunity exists to extend the model by considering the perspective of content *creators*. Doing so would raise numerous interesting questions. For example: When and how do creators regulate their experienced emotions prior to expressing them in UGC? What role does awareness of observers (or potential observers) play in that process? How does the very act of expressing emotions influence creators’ own behaviors toward the target?

General Discussion

Conventional, face-to-face communications are rapidly being supplanted by online platforms and UGC. For scholars and practitioners, this transformation makes it increasingly important to update traditional communications models and strategies to reflect unique aspects of the digital environment. TRE offers a theoretical framework to explain how emotional expressions in UGC influence observers’ behavior toward the target of those expressions and the UGC itself. Three key features of our theory are that it foregrounds the target of emotional expression in a tripartite relationship, advances three distinct affective and cognitive pathways, and integrates contextual factors that are highly relevant to UGC settings. Below, we expand briefly on each of these features.

A Tripartite Relationship

Although emotions are, by definition, directed toward a target, the target has received little attention in prior IS theorizing (cf. Zhang, 2013). In UGC settings, however, the target of an emotional expression is crucial, as it represents a “bridge” that connects creators to observers—both current and future—through a common interest, thereby facilitating attention, engagement, and influence. Moreover, the target is often of fundamental interest to stakeholders of UGC platforms. For example, manufacturers, retailers, and brands are directly impacted by emotional word-of-mouth that affects shopper behavior. With this in mind, a distinctive feature of TRE theory is its foregrounding of the target of emotional expression, and a key implication for future research is that it is imperative to precisely identify the specific target(s) toward which emotions are expressed. The

target is often not obvious (e.g., “I’m ecstatic that [brand] will be releasing [product] on [date]!”); thus, we caution researchers against making assumptions.

At the core of TRE theory are three pathways by which the influence of emotional expressions occurs. Other than a few recent studies (see Lafreniere et al., 2022; Rocklage & Fazio, 2020), prior theorizing and empirical research have tended to focus on one pathway alone, limiting its usefulness for explanation and prediction. A notable exception is EASI theory, which includes broad “affective” and “cognitive” mechanisms that can operate simultaneously (van Kleef, 2009). Applications of EASI to UGC settings have considered both types of mechanisms, finding mixed evidence for their coexistence (Yin et al., 2021). Unlike EASI, however, an essential feature of TRE is that it distinguishes between inferences about *the creator* of an emotional expression and inferences about *the target* of that expression; whereas the former primarily impact behaviors toward the UGC itself, the latter primarily impact behaviors toward the target. An important implication is that the two types of inferences will sometimes conflict: In a social media post about a celebrity, for example, expressions of extreme disgust may lead readers to deem the poster noncredible but nonetheless lead them to form negative associations about the celebrity. How observers make sense of and resolve such contradictions is a fascinating area for future research.

An Integrative Framework

The traditional focus of the study of emotions has been intrapersonal (the influence of “felt emotions” on oneself) rather than interpersonal (the influence of “expressed emotions” on others who observe them). However, the emergence of online communications has made the interpersonal influence of emotions an increasingly vital topic. Emotional content created by a single user in a single social media post, short-form video, etc., can remain visible on a platform indefinitely, influencing countless future observers. As a result, such content has the potential to launch new trends, fuel the spread of misinformation, or spur social movements (Kudesia, 2021; Vosoughi et al., 2018). Not surprisingly, therefore, a growing number of investigations have begun to examine interpersonal effects of emotional expression in UGC. However, these investigations have tended to rely either on traditional, intrapersonal theories such as “feeling as information” (Schwarz, 2012) or contemporary theories such as EASI (van Kleef, 2009) that are best suited to offline settings. Because such theories do not readily accommodate UGC, they are sometimes superficially applied or overstretched. Moreover, most studies to date have explored only one type of observer behavior and one potential mechanism.

Situated directly in the unique environment of UGC, TRE provides an integrative framework that opens the “black box” of how emotions in UGC influence observers. By specifying three distinct pathways that are capable of operating simultaneously, the theory offers both breadth and precision to guide future investigations. Similarly, by considering observer *evaluations* of UGC separately from their *behaviors* toward it, TRE distinguishes between two important, real-world consequences of emotional expression. In fact, an interesting insight emerges if we use the framework of TRE to compare recent UGC research. Research in more utilitarian settings (such as online reviews) has tended to focus on behaviors toward the target or evaluations of the UGC as outcome variables and on inferences (about the target or the creator) as the explanatory mechanism (e.g., Lafreniere et al., 2022; Rocklage & Fazio, 2020; Yin et al., 2014, 2021). In contrast, research in more hedonic settings (such as social media) has tended to focus on behaviors toward the UGC as the outcome variable and on affective reactions as the explanatory mechanism (e.g., Bachura et al., 2022; Chung & Zeng, 2020; Kudesia, 2021; Qiu et al., 2020). By providing a framework applicable to both settings, TRE theory discourages such a selective style of theory application and encourages holistic understanding.

Emotional expressions do not occur in a vacuum, and the inclusion of contextual variables in TRE highlights the importance of accounting for situational factors. In fact, the variables underlying Propositions 4–6 (observer-creator relationship, observer motivation for consuming UGC, and UGC modality) may help explain the insight above. In online review settings, for example, cognitive inferences may tend to be more impactful than affective reactions because shoppers are usually motivated to learn, have time and cognitive resources available, and perceive reviewers to be at least somewhat similar and trustworthy. Moving forward, we advise researchers utilizing TRE to carefully consider the role of contextual factors in the specific setting(s) they investigate.

A Novel, Emotion-Focused Theory

Novel theorizing can involve either the introduction of newly conceived explanations for existing phenomena or the adaptation of prior explanations to substantially new phenomena. Acknowledging the transformational nature of online communications, TRE emphasizes the uniqueness of UGC as a vehicle for emotional expression (e.g., its tendency to involve asynchronous, one-to-many transmissions from creators to current and future observers who are often unknown). As such, TRE represents a novel, emotion-focused theory that was conceived and designed to explain

UGC phenomena, and it is a valuable complement to other IS theories incorporating emotion. In the affective response model (Zhang, 2013), for example, information and communication technologies serve as the targets of user emotions; in TRE, they serve mainly as the channels through which creator emotions are conveyed and responded to.

By drawing on emotion theories established in source disciplines and explaining how they operate differently in UGC, TRE represents a theory in context (Whetten, 2009). Its distinction between affective and inferential pathways was inspired by EASI but developed extensively to accommodate the unique, internet-enabled environment of UGC. As such, it constitutes a form of “conceptual blending” that emphasizes the novel aspects of a new phenomenon while retaining core elements of source theories (Jiang et al., 2022a). In particular, the relationship among creator, observer, and target that underlies the model is central to UGC, and all of the outcome variables and pathways in TRE stem directly from that relationship. Furthermore (and as noted above), a crucial distinction between TRE and source theories is its foregrounding of the target of emotional expression. Explaining observer behaviors toward that target requires a deep understanding of how emotions influence others in the unique context of UGC.

Conclusion

We conclude by reiterating that TRE is intended to be a generative theory, facilitating cumulative research by providing a common vocabulary and a comprehensive set of propositions. Given that many of our propositions are based on scant empirical evidence, a straightforward opportunity exists to test them (directly or indirectly) across diverse settings. More broadly, we hope that the theory inspires more comprehensive exploration of the interpersonal influence of emotions in UGC. Building on the framework presented here, researchers will be prepared to study novel phenomena in an increasingly important domain.

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Appendix A

Literature Review of Relevant Papers in Business Journals

Table A1. Literature Review of Relevant Papers in Business Journals

#	Article	UGC setting	Emotion-related theory	Method	Emotional expressions	Behavior-related dependent variable	UGC evaluations	Propositions tested
1	Bachura et al. (2022)	Social media	Cognitive appraisal theory	Data-driven exploratory analysis	Negative emotions of anxiety, anger and sadness	Sharing		(P3), (P9)
2	Berger and Milkman (2012)	Online news		Lab experiments, archival data	Emotional valence, arousal, discrete emotions of anxiety, anger, sadness, and awe	Sharing		P3, P9
3	Berger et al. (2023)	Online news	Cognitive appraisal theory	Lab experiments, archival data	Emotional valence, arousal, discrete emotions of anger, anxiety, sadness, contentment, excitement, hope	Sustaining attention		P3, P9
4	Berger et al. (2022)	Consumer reviews		Lab experiments, archival data	Emotionality	Interest in trying the restaurant	Review helpfulness	P2, (P7), (P10)
5	Berman et al. (2019)	Social media		Archival data	Positive emotion, negative emotion	Sharing		(P6)
6	Chen et al. (2019)	Online petitions		Archival data	Positive emotion, negative emotion	Petition success		(P3), (P8)
7	Chou (2023)	Consumer reviews		Archival data	Emotional arousal, valence		Review helpfulness	(P2), (P5), (P10)
8	Chou et al. (2022)	Consumer reviews	Negativity bias	Archival data	Emotional valence, arousal		Review helpfulness	(P2), (P5), (P10)
9	Chung and Zeng (2020)	Social media	Emotion entrainment theory	Archival data	Discrete emotions			P3
10	Craciun et al. (2020)	Consumer reviews	Cognitive appraisal theory, attribution theory	Lab experiment and archival data	Anger, anxiety		Review helpfulness	P2, P5, P10
11	Deng and Chau (2021)	Online news in social media	Emotion-as-social-information (EASI) theory (inference pathway only), appraisal-tendency framework	Lab experiments	Anger, sadness	Intention to read, like, comment, and share the news	News credibility (believability)	P2, P3 ns, P10, P11
12	Dissanayake et al. (2019)	Solutions posted on medical crowdsourcing platforms	Cognitive appraisal theory	Archival data	Sadness, anger, fear	Number of participating detectives to solve a case		(P3), (P9)

13	Gopinath et al. (2014)	Online word-of-mouth from product forums		Archival data	Valence of emotional online word-of-mouth	Sales		P1
14	Gour et al. (2022)	Social media		Archival data	Positive emotion, negative emotion, and mixed emotions	Sharing		(P9)
15	Heng et al. (2019)	Online forums	Emotional contagion	Case	Discrete emotions			P3, (P6)
16	Herhausen et al. (2019)	Word-of-mouth in online brand communities	Emotional contagion, affect infusion model	Archival data	Emotional arousal	Liking, commenting		(P3), (P6), (P9)
17	Hong et al. (2016)	Consumer Reviews	Negativity bias	Archival data	Emotional arousal		Review helpfulness	(P2), (P5), (P10)
18	Hung et al. (2024)	Consumer reviews	Emotional contagion, emotion regulation	Archival data	Positive emotion and negative emotion expressed in past customer reviews			P3, P6
19	Jha and Shah (2019)	Consumer Reviews	Social appraisal theory, negativity bias	Lab experiment	Emotional valence of past reviews			(P3), (P6)
20	Jiang et al. (2022b)	Online health communities	Negativity bias	Archival data	Negative emotion	Replies, reciprocated communication, social support (informational support, emotional support)		(P3), (P9)
21	Kermani et al. (2024)	Social media		Lab experiments	Outrage	Purchase intention		P1, P4, P7
22	Kudesia (2021)	Social media, news and opinion sources, etc.	Emotional contagion, sensemaking theory	Qualitative	Anger			P1, P3 mixed
23	Lafreniere et al. (2022)	Consumer Reviews		Lab experiment and archival data	Swear words		Review helpfulness	P1, P2, P3 n.s., P4, P5, (P10)
24	Li et al. (2021)	Social media	Negativity bias, emotional contagion	Archival data	Negative emotions of anxiety, anger and sadness	Virality		(P3), (P6), (P9)
25	Lin et al. (2021)	Video live streaming	Emotional contagion	Archival data	Broadcaster positive emotion of happiness (in facial expressions)	Likes, tips, engagement (chatting comment length, audience size)		P3, P6, P9
26	Ludwig et al. (2013)	Consumer Reviews	Accessibility-diagnosticity framework	Archival data	Positive emotion, negative emotion	Conversion rates		(P1), (P3), (P4), (P7), (P8)

27	Maiberger et al. (2024)	Online word-of-mouth on social media	Emotion-as-social-information (EASI) theory	Lap experiment, field experiment, archival data	Facial emoji use (vs. verbal-only)	Persuasion, likes, retweets	Perceived ambiguity	(P2), P3, (P5), P9, (P10)
28	Mukherjee et al. (2022)	Online news	Persuasion knowledge model	Lab experiments and archival data	Positive emotion, negative emotion in clickbait headlines	Liking and sharing of headlines		P2, P3 mixed, P9 mixed, (P11)
29	Nguyen et al. (2020)	Social media-based word of mouth	Emotional contagion	Archival data	Discrete emotions of joy, trust, surprise, anticipation, sadness, fear, disgust, anger	Firm value		(P1), (P3), (P7)
30	Ordenes et al. (2017)	Consumer reviews	Speech act theory	Archival data	Explicit sentiment expressions (activation in emotion words, boosters, attenuators), implicit sentiment expressions (directives, commissives, assertives)	Sales ranking		(P7/P8)
31	Park et al. (2023)	Consumer reviews	Confirmation bias / need for cognition	Archival data	Positive facial emotions		Review helpfulness	(P10)
32	Peng et al. (2020)	Medical Q&A	Affect categorization, fluency	Archival data	Answer's emotional intensity		Review helpfulness	(P3), (P6)
33	Qiu et al. (2020)	Social media	Emotional contagion	Archival data	Positive emotions (happiness), negative emotions (surprise, fear, sadness, anger, disgust)	Microblog volume, retweets		P3, P9
34	Qiu et al. (2023)	Social media	Emotion-as-social-information (EASI) theory, emotional contagion, negativity bias	Field and lab experiments	Emoticons	Persuasiveness		P2, P3, P5, P6, P8
35	Ransbotham et al. (2019)	Consumer Reviews		Archival data	Affective intensity	Liking		(P2), (P10)
36	Rizzo et al. (2024)	Influencer marketing	Persuasion knowledge model	Archival data, lab experiments	Language arousal	Likes, comments		P2, P5, (P10)
37	Rocklage and Fazio (2020)	Consumer reviews	Expectation violation, attribution theories	Lab experiments and archival data	Review emotionality	Attitude toward product, purchase intention	Review helpfulness, trust in the review	(P2), (P5), (P10)
38	Salehan and Kim (2016)	Consumer reviews		Archival data	Title sentiment amount (similar to arousal), review sentiment amount	Attention to the review (measured by total helpfulness votes)	Review helpfulness	(P2), (P5), (P8), (P9)

39	Stieglitz and Dang-Xuan (2013)	Social media	Emotional contagion, negativity bias	Archival data	Valence and arousal of emotions	Sharing quantity and speed		(P3), (P9)
40	Toubiana and Zietsma (2017)	Social media	Echo-chamber effect	Qualitative	Discrete emotions of hope, betrayal, anger	Support / protest, liking, sharing, etc.		P3, P8, P9
41	von Helversen et al. (2018)	Consumer reviews	Negativity bias	Lab experiment	Positive emotion, negative emotion	Product choice		(P4), (P7)
42	Yin et al. (2014)	Consumer Reviews	Appraisal theory of emotions, appraisal-tendency framework	Lab experiments and archival data	Anxiety vs. anger		Review helpfulness	P2, P10
43	Yin et al. (2017)	Consumer reviews	Lay theories of emotions	Lab experiments, survey, and archival data	Emotional arousal		Review helpfulness	P2, P5, P10
44	Yin et al. (2021)	Consumer Reviews	Emotion-as-social-information (EASI) theory	Lab experiments	Anger	Product attitude and choice	Review helpfulness	(P1), P2, P3 n.s., (P7), P10
45	Yu et al. (2023)	Consumer reviews	Affective priming theory, feelings as information theory	Prediction study and lab experiment	Emotional valence, discrete emotions	Purchase intention	Review helpfulness	P3, (P7)
46	Zhou et al. (2023)	Online health communities	Emotional contagion	Archival data, deep learning	Valence of emotional support targeting other support seekers			P3

Note: Parentheses in the last column on the right indicate a proposition that was argued but not directly measured; "n.s." indicates non-significance or lack of support, and "mixed" indicates mixed support for the proposition.