International Journal of Applied Economics, Acounting and Management (IJAEAM)
Vol.1, No.3, 2023: 155-168

Affect Labeling as an Intentionally Regulatory Mechanism for Emotion Management

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A R T I C L E I N F O

Keywords: Affect Categorization, Emotion Management, Implicit, Explicit, Hypothesis

Received : 4 August
Revised : 18 August
Accepted : 23 September

A B S T R A C T

The phenomenon of transmitting feelings via language methods also referred to as "impact labeling," has the potential to lessen the intensity of our negative emotional experiences. In contrast to explicit procedures used to regulate emotions, the process of effect identification may not be seen as an intentional regulating mechanism when it first occurs. This was made by comparing the effects of affect tagging to the outcomes of deliberate emotion management. This study aims to construct a comparison analysis with reappraisal, a kind of explicit emotion management, and offer a complete review of the existing literature on affect classification. Additionally, to provide a comprehensive assessment of the current research on affect category. The investigation will be carried out with a significant focus on four areas of effects: the experiential, the autonomic, the neurological, and the behavioral domains. The second sources such as documents, and review previous published papers have been used as a methodology Findings The research findings indicate that affect category has resulted in various outcomes, including reduced self-reported effect, decreased autonomic activity, and activation of similar neural regions, in addition to addressing other issues detailed throughout this review paper.

DOI: https://doi.org/10.59890/ijaeam.v1i3.444
ISSN-E: 3024-8978
https://journal.multitechpublisher.com/index.php/ijaeam

INTRODUCTION

When considering emotion regulation, it is common to associate it with a process that requires physical or mental exertion to distance ourselves from the source of our emotions. Individuals sometimes tend to shift their gaze from a distressing vehicle accident or engage in self-persuasion to mitigate the severity of the situation. Successful emotion regulation is a means of disengaging from stimuli that trigger an emotional response, mitigating our affective experiences via strategies such as avoidance or cognitive reappraisal. It is unlikely that one would see the act of only attending to one's emotions without actively attempting to modify them as capable of yielding comparable outcomes. Recent research has shown a noteworthy emotion regulation known as "affect labelling," which involves verbalizing emotions. This process of putting sentiments into words has served as implicit emotion management. The advantages of discussing our emotions have been present in other iterations, such as therapy (Esterling et al., 1999; Greenberg, 2002) and expressive writing (Pennebaker, 1993; Pennebaker & Beall, 1986). In recent years, there has been a growing emphasis on investigating affect labelling as a viable strategy for emotion management, particularly within controlled laboratory settings. Engaging in discussions on our emotions or using emotive language to articulate sources of distress may not inherently resemble a practice aimed at regulating our emotions. Therefore, it is essential to ascertain its veracity. One potential approach is examining whether engagement in this activity can govern emotional reactions.

When an individual undergoes an emotional state, it triggers a range of interconnected reactions within the realms of personal experience, physiological processes, and behavioural manifestations (Levenson, 2003; Mauss et al., 2005). Emotion regulation is often conceptualized as deliberately altering an emotion's quality, length, or strength (Gross, 1998b; Gross & Thompson, 2007; Koole & Rothermund, 2011). This manipulation may be assessed by examining outputs connected to emotions within the indicated categories. Emotion regulation is a cognitive process individuals use to effectively moderate the principal routes of emotional output. This review will first examine the impact of affect labelling on emotion regulation by comparing it to reappraisal, a more extensively researched emotion regulation method.

Additionally, the study will explore the advantages of affect labelling as an implicit type of emotion regulation. Based on existing studies about the impacts of affect labelling, we speculate on potential processes by which affect labelling may function. In conclusion, we bring attention to the unresolved concerns about impact labelling.

the Impact of Mood Identification on the Regulation of Emotions

In order to illustrate an often-seen phenomenon in the field of emotion regulation, we begin by describing the extensively researched method of emotion control known as "reappraisal." One reappraisal method involves reinterpreting a stimulus that elicits strong emotions with the intention of modifying its emotional effect (Gross, 1998a). In the preceding illustrations of emotion regulation, one instance involves reappraisal by persuading ourselves that a car accident is not as severe as it initially appears. Initially, we evaluate the collision as potentially life-threatening or causing harm to those involved. However, we

reinterpret the observed physical damage as potentially superficial or cosmetic. The impact of affect labelling on emotion regulation. There are two primary types of reconsideration: "reinterpretation" and "distance." Reinterpretation involves the act of reinterpreting an emotionally evocative stimulus in order to alter its impact on one's emotions.

On the other hand, distance refers to the process of downplaying the significance of the stimulus concerning oneself. The primary objective of this study is to examine the reinterpretation of reappraisal, with the understanding that the arguments presented will apply to both kinds. The alteration of subjective emotional experience may occur via the process of reappraisal through reinterpretation, as shown by self-report measures (Blechert et al., 2012; Kalisch et al., 2005; McRae et al., 2012; McRae et al., 2012; Ray et al., 2010). Multiple meta-analytic studies have shown that prefrontal regions associated with cognitive control exhibit heightened activation during emotion regulation, specifically in reappraisal via reinterpretation. The present study investigates the ventrolateral prefrontal cortex (vlPFC), dorsolateral prefrontal cortex (dlPFC), supplementary motor area (SMA), and anterior cingulate cortex (ACC), as discussed in previous research conducted by Buhle et al. (2014), Diekhof et al. (2011), Frank et al. (2014), Kalisch (2009), and Kohn et al. (2014). The findings of meta-analytic studies investigating the effects of reappraisal and reinterpretation on neural deactivations have shown significant reductions in amygdala activity, a brain area associated with generating emotions. According to many studies, the ventrolateral prefrontal cortex (vlPFC) is implicated in the process of inhibiting cognitive reappraisal, regulating emotions, and exerting self-control (Golkar et al., 2012; Ochsner et al., 2012; Berkman & Lieberman, 2009; Hooker & Knight, 2006; Cohen & Lieberman, 2012; Tabibnia et al., 2014; Tabibnia et al., 2011). Similar to reappraisal, the concept of "affect labelling" encompasses a range of interconnected variants. The study covered in this section demonstrates that affect labelling encompasses the act of naming one's own emotions (e.g., "I am experiencing anger") or describing the emotionally evocative feature of stimuli that elicits an emotional response (e.g., "That individual appears to be angry" or "That substance is blood"). Communication may be facilitated via several means, such as verbal expression, written correspondence, or predetermined effective descriptors. Until now, research has been scarce focused on distinguishing between various forms of emotion labelling (McRae et al., 2010). Nevertheless, irrespective of the particular manner in which affect labelling is implemented, studies investigating affect labelling have shown control of emotional responses in several domains, such as subjective experience, autonomic arousal, brain activity, and behavioural outcomes, similar to what has been seen in other methods of emotion regulation.

the Effects of Emotion Tagging on One's Personal Experiences

The degree to which using self-report as a means of assessing the impact of verbalizing an emotional encounter constitutes an affect labelling manipulation and hampers our capacity to detect effects reliant on self-report remains uncertain. However, when individuals use affect labelling about stimuli that evoke strong emotions, they often express reduced effect levels compared to

situations when affect labelling is not employed. When participants were instructed to categorize either the emotional states observed in others or emotionally stimulating objects, the act of affect labelling was found to significantly decrease distress in response to unpleasant images and diminish pleasant feelings in response to positive images, as reported by the participants. This effect was observed when comparing the experience of viewing the stimuli with and without applying labelling. It is worth noting that there was a positive correlation between distress reduction resulting from emotion labelling and distress reduction resulting from reappraisal, as shown among the study participants conducted by Lieberman et al. (2011). The act of categorizing and identifying one's emotional condition decreased distress levels during the process of affect labelling. This decrease in distress was associated with a subsequent decrease in distress levels during the reappraisal process, as seen in the study conducted by Burklund, Creswell, Irwin, and Lieberman in 2014. Previous research has demonstrated that labelling the emotion portrayed in images can decrease self-reported negative valence and arousal experienced when viewing aversive images.

Similarly, labelling emotions has been found to reduce self-reported positive valence experienced when viewing pleasant images. Additionally, labelling emotions has decreased self-reported physical symptoms following exposure to negative images. These findings have been supported by various studies conducted by Constantinou, Bogaerts, van Diest, and van den Bergh in 2013, 2014, and 2015. Furthermore, labelling emotions has been found to reduce self-reported feelings of sadness when individuals rate images of evocative stimuli as either "pleasant," "neutral," or "unpleasant," as demonstrated by the research conducted by S. F. Taylor, Phan, Decker, and Liberzon in 2003. While there may be exceptions (Matejka et al., 2013), it has been shown that affect labelling has the potential to decrease the intensity of positive and negative emotions in people's subjective experience. Furthermore, these reductions, in effect, are found to be correlated with comparable reductions achieved by reassessment.

Implications of Emotion Identification on Autonomic Regulation

While there is no consensus on the specific patterns of emotions in the autonomic domain, it is widely accepted that the experience of emotional events generates a quantifiable autonomic signal (Ekman et al., 1983; Kragel & LaBar, 2014; Kreibig, 2010; Levenson, 2003). This signal is connected to other measures of emotional response (Daubenmier et al., 2014; Mauss et al., 2005; Yang et al., 2007) and can be modified through emotion regulation processes (Gross, 2015). Affect labelling has resulted in two types of autonomic reductions: immediate and delayed effects. Applying affect labelling resulted in an instantaneous decrease in autonomic reactions to an emotional experience in several instances. The assessment of anger experienced on a numerical continuum after the elicitation of emotional stimuli revealed a physiological pattern characterized by diminished emotional responsiveness, as evidenced by a decline in heart rate, a decrease in cardiac output, and an elevation in total peripheral resistance

(Kassam & Mendes, 2013). These findings imply a shift away from a state of anger (Mendes et al., 2008).

According to Matejka et al. (2013), expressing an emotional experience in reaction to unpleasant visuals, instead of providing factual information about the encounter, reduced skin conductance responses and voice pitch. These findings suggest a drop in arousal levels. In a study conducted by McRae, Taitano et al. (2010), the effects of subjective affect labels (i.e., words that describe an individual's emotional state) were compared to objective affect labels (i.e., words that describe the stimulus that elicits the emotion) about aversive images. The findings revealed that applying objective affect labels resulted in a more significant reduction in skin conductance responses. In some instances, the autonomic consequences of affect labelling may not be immediately apparent but manifest as a delayed impact over a prolonged period.

In a study conducted by Mendolia and Kleck (1993), it was observed that individuals who were exposed to a distressing film and discussed their emotional experiences exhibited heightened physiological reactions, such as decreased skin temperature and increased skin conductance, during an initial session. However, when these participants viewed the film a second time after a 48-hour interval, their physiological responses diminished, and they reported experiencing more positive emotions.

In a study conducted by Tabibnia, Lieberman, and Craske (2008), it was shown that individuals exposed to spider pictures reduced skin conductance after 8 days when they were presented with the same stimuli again. However, this drop in skin conductance was only evident when the images were accompanied initially by negative word labels.

In a study conducted by Kircanski, Lieberman, and Craske (2012), it was observed that patients who were clinically diagnosed with arachnophobia and participated in affect labelling while being exposed to a live, caged tarantula during an initial session experienced more significant reductions in skin conductance response during a subsequent session one week later. This effect was more significant than in patients who engaged in distraction, reappraisal, or mere exposure alone.

the Cognitive Implications of Emotional Coding

Based on the observation that people tend to have a misconception about the functioning of affect labelling, it is evident that the effectiveness of affect labelling does not depend on the intention to control one's emotions. Affected labelling may work well even in the absence of a regulatory objective. Nevertheless, it is widely believed that implicit types of emotion regulation do not need conscious effort, similar to habituation, fear extinction, or emotional conflict adaption (Gyurak et al., 2011).

While the effectiveness of regulating an emotional experience is independent of the purpose, it should be noted that affect labelling is not a process that occurs effortlessly. It involves deliberately converting either the internal emotional experience or the external evocative stimuli into a language sign. The process of affect labelling may be explicit due to the cognitive effort involved. However, its paradoxical consequences as a regulatory mechanism

operating without conscious knowledge indicate that it might be considered a kind of emotion regulation, although implicitly (Gyurak & Etkin, 2014).

Lieberman et al. (2011) found that individuals anticipated experiencing heightened discomfort if they were to participate in affect labelling despite having previously reported decreased distress when engaging in an actual affect labelling assignment. Many individuals lack awareness of the regulatory impacts of affect labelling and often let their strong lay notions about how emotion regulation should function override their actual experiences. The notable lack of correct prediction about the regulatory consequences of affect labelling has an intriguing implication for its position within the broader body of knowledge on emotion regulation. Implicit emotion regulation is characterized by the absence of conscious monitoring or explicit aim, but it nevertheless can modify an individual's emotional experience (Koole & Rothermund, 2011).

Potential Principles of Mood Tagging

Previous research on affect labelling has primarily emphasized determining if a regulatory impact is induced. The direct investigation of mechanisms pertaining to affect labelling has yet to be conducted, resulting in a speculative knowledge of the essential processes involved. This part will present many potential candidates, and their suitability as fundamental processes of affect labelling will be examined.

the Phenomenon of Disengagement

One may argue that affect labelling works through distraction since applying words to a provocative input briefly diverts our attention from completely processing and interacting with the stimulus in the manner we would have otherwise. Consequently, this leads to reduced consequences. This hypothesis is plausible given the available research that compares the effects of emotion labelling with distraction. The study conducted by Lieberman et al. (2011) found no significant differences in the regulatory effects on self-reported distress between affect labelling and distraction techniques. Furthermore, the effectiveness of distraction is contingent upon the activation of comparable brain pathways, including the ventrolateral prefrontal cortex (vlPFC), supplementary motor area (SMA), and anterior cingulate cortex (ACC), as well as the resultant decrease in amygdala activity (McRae, Hughes, et al., 2010).

the Act of Self-Examination

In order to articulate our emotions, it is necessary to engage in introspection and discern the specific nature of those emotions. The primary characteristic of dispositional mindfulness, as identified by Baer (2004), is the awareness and observation of one's own experiences, particularly emotional experiences. This ability is associated with the capacity for affect-labeling. Individuals with higher levels of dispositional mindfulness exhibit stronger neural activations in areas such as vlPFC and dlPFC during affect labelling and more significant decreases in amygdala activations. These findings suggest that dispositional mindfulness is linked to a more robust and effective neural response during affect labelling, as Creswell, Way, Eisenberger, and Lieberman (2007) demonstrated. The brain patterns associated with good emotion management, namely increased activity in the ventrolateral prefrontal cortex (vlPFC) and reduced activity in the amygdala, have been seen in instances of

emotional introspection that do not involve explicit language processing (Herwig et al., 2010). Considering the presented information, it is plausible to assert that self-reflection on our emotions constitutes a crucial element in affect labelling. Translating these emotions into language may primarily function as a means to commence the process of introspection or serve as an outward indication that self-reflection has occurred. The focus may revolve around more than language but the necessary procedures involved in achieving proficiency.

One intriguing area of research is the impact of self-distancing on the control of emotions via self-reflection, as explored by Kross and Ayduk (2017). This observation is especially intriguing, considering the emphasis on remoteness as a significant element in reappraisal.

LITERATURE REVIEW

When considering emotion regulation, it is common to associate it with a process that requires physical or mental exertion to distance ourselves from the source of our emotions. Individuals sometimes tend to shift their gaze from a distressing vehicle accident or engage in self-persuasion to mitigate the severity of the situation. Successful emotion regulation is a means of disengaging from stimuli that trigger an emotional response, mitigating our affective experiences via strategies such as avoidance or cognitive reappraisal. It is unlikely that one would see the act of only attending to one's emotions without actively attempting to modify them as capable of yielding comparable outcomes. Recent research has shown a noteworthy emotion regulation known as "affect labelling," which involves verbalizing emotions. This process of putting sentiments into words has served as implicit emotion management. The advantages of discussing our emotions have been present in other iterations, such as therapy (Esterling et al., 1999; Greenberg, 2002) and expressive writing (Pennebaker, 1993; Pennebaker & Beall, 1986). In recent years, there has been a growing emphasis on investigating affect labelling as a viable strategy for emotion management, particularly within controlled laboratory settings. Engaging in discussions on our emotions or using emotive language to articulate sources of distress may not inherently resemble a practice aimed at regulating our emotions. Therefore, it is essential to ascertain its veracity. One potential approach is examining whether engagement in this activity can govern emotional reactions.

METHODOLOGY

the Concept of Decreasing Confusion

Emotions often manifest as ambiguous and elusive states of sensation. By assigning labels to experiences or stimuli that are evocative but ambiguous, we can decrease our level of ambiguity by categorizing them. Previous studies have proposed that the mechanism by which impact labelling functions is via the lowering of uncertainty (Lindquist et al., 2016; Lindquist et al., 2015). According to the proponents of this idea, this may explain the observed results in affect-labeling studies pertaining to the amygdala, given that the amygdala responds to ambiguous stimuli (Whalen, 2007). However, further study is necessary to comprehend the potential impact of uncertainty on the generation of signals within the many domains of emotion output. For instance, might distress ratings

or autonomic responses serve as markers of ambiguity in stimuli? Suppose uncertainty is identified as the fundamental factor contributing to the regulation of emotions. In that case, it is plausible to see a decrease in the expression of other emotional responses when this uncertainty is minimized. It is plausible that uncertainty plays a significant role in generating emotions such as fear and anxiety. However, uncertainty is less likely to be a prominent factor in the experience of other emotions, such as anger or sorrow. Previous research has shown that the process of classifying emotions may effectively diminish the intensity of both anger and sadness (Smith & Ellsworth, 1985). This effect has been supported by studies conducted by Kassam and Mendes (2013) and S. F. Taylor, Liberzon, and Koeppe (2000).

the Process of Metaphorical Transformation

This term refers to transforming a concept or idea into a symbolic representation. This conversion allows for the expression of the process of affect labelling may also include abstraction when language is used to transform data into a symbolic representation. Multiple studies have shown that the replacement of impact labels When using more abstract labels about superordinate categories, a similar pattern of effects becomes evident. The impact of applying abstract "content labels" such as "object," "animal," "human," and "landscape" to unpleasant stimuli was shown to be equivalent in lowering self-reported effect, as seen in the affect-labelling condition (Constantinou et al., 2015; Constantinou et al., 2014). In a study conducted by Hariri et al. (2003), it was observed that when participants were tasked with categorizing aversive and threatening stimuli as either "natural" or "artificial," there was an increase in activity in the ventrolateral prefrontal cortex Additionally, it was found that there was a decrease in limbic activity in the amygdala and a reduction in skin conductance responses, as reported by Tupak et al. (2014).

Furthermore, the study conducted by Lieberman, Hariri, Jarcho, Eisenberger, and Bookheimer (2005) revealed a decrease in amygdala activity when participants were presented with photographs of African American faces and the term "African American" was associated with these images. The process of converting the eliciting input into affect language has significant importance in affect labelling. However, some nonaffect labels may also have comparable effectiveness. The act of contemplating one's emotions or evocative stimuli abstractly, mainly via language, could lead to symbolic transformation through language. This process may enable people to reduce the intensity of their emotional experiences without necessarily focusing on the affective components of the stimulus.

The process of abstracting the stimulus using language may result in the detachment of an individual from specific details or a decrease in the immediate significance of the stimulating factor. This detachment can promote psychological distancing, which has been demonstrated to effectively decrease negative emotions through distancing language (Nook et al., 2017).

RESULT AND DISCUSSION

Additional Factors to Take Into Account

In addition to comprehending the underlying processes contributing to the impact of affected classification, other unresolved inquiries need more investigation and scrutiny in future studies. The increasing interest and research in affect labeling, particularly in the clinical field, necessitates a comprehensive understanding of the constraints associated with affect labeling as a viable method of regulating emotions. Recognizing potential moderators and boundary conditions that may diminish the efficacy of affect labeling is crucial. Moreover, gaining a deeper comprehension of the circumstances that influence the functioning of labelling, as well as those in which it is ineffective, may assist in identifying the underlying processes that contribute to its effects and discovering strategies to enhance the effectiveness of this paradigm.

As elucidated in the section about the Autonomic Consequences of Affect Labeling, many paradigms, including affect-labeling tasks, have shown delayed longer-term effects without concurrent decreases in affect-related signals. Conversely, other paradigms conducted during a single session have demonstrated instantaneous reductions. It is worth noting that most studies that exclusively observed delayed effects required participants to generate their affect labels rather than having them provided. This involved participants describing their emotions as they occurred instead of selecting affect labels from a predetermined list on a screen. Conversely, none of the studies that reported immediate decreases in effect required participants to self-generate affect labels. The only documented instance in which affect labelling showed a substantial increase in self-reported affect or autonomic arousal during the first exposure included participants being instructed to independently produce and articulate their emotional experiences (Mendolia & Kleck, 1993; Ortner, 2015). Subsequently, we examined translating the perception of an emotional state or aversive stimulus into language, acknowledging the considerable effort required. Surprisingly, the regulatory effects of affect labelling defy common expectations and operate unconsciously, thus classifying it as a type of implicit emotion regulation. Ultimately, we engaged in speculation on many potential methods by which impact labelling may function.

the Behavioural Outcomes Resulting from the Practice of Emotion Categorization

Emotions have a practical purpose and often equip us with the mental and physical readiness to engage in certain behaviours (Frijda, 1986; Levenson, 1999).

If there are changes in emotional states, it is reasonable to anticipate corresponding changes in downstream behavioural outcomes influenced by these emotions. The utilization of affect labelling has resulted in incredible progress in exposure therapy for individuals with a clinical fear of spiders compared to other techniques such as reappraisal, distraction, or exposure alone (Kircanski et al., 2012). Additionally, it has been observed that affect labelling leads to a decrease in the difficulty experienced by individuals in describing their emotional experiences and tension when exposed to aversive films (Mendolia & Kleck, 1993). Furthermore, parents of adolescent girls have reported decreased

anxiety levels when their daughters use electronic diaries to record their emotional states (Morelen et al., 2013). Lastly, students who engaged in expressive writing about their test-related anxieties before taking a math test demonstrated improved performance (Ramirez & Beilock, 2011).

CONCLUSION

The current state of study on affect labelling as a kind of implicit emotion regulation is characterized by its early phases. As scholars delve further into this topic, they are gradually moving beyond the fundamental discovery that labelling has the potential to diminish emotional experiences. Consequently, a more comprehensive understanding of the mechanisms and underlying reasons behind the effectiveness of affect labelling will emerge. In this review, we have presented evidence about the many impacts of labelling on the fundamental aspects of emotional response. These effects are similar to those shown in other kinds of explicit emotion regulation, emphasizing reappraisal. The topic at hand has been thoroughly examined and deliberated about it. The investigation of these facets has led researchers to conclude that affect labelling may be seen as a kind of unintentional emotion regulation. In the next stage of this paper, we will speculate on the likely processes responsible for the influence labelling effects. Specifically, there is an increase in activity in prefrontal control regions, while there is a decrease in emotion-generative activity in the amygdala. Additionally, affect labelling has been associated with reduced emotion-related behavioural effects. In the meantime, we examined translating the perception of an emotional state or harmful stimulus into language, recognizing the considerable effort required. However, the regulatory effects of affect labelling are paradoxical and unforeseen, as they appear to function unconsciously, thereby classifying it as a type of implicit emotion regulation.

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