To believe or not to believe: leader's belief about emotion usefulness and its impact on team dynamics

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Abstract

Background This study aims to investigate the impact of a leader's beliefs in the usefulness of emotions on the emotional competence and relationship conflicts of their teams.

Methods The data were collected through an online survey targeting leaders with at least three years of experience in managerial positions in South Korean workplaces, with a total of 326 participants. Latent Profile Analysis (LPA) was conducted to classify leaders into latent groups based on their beliefs regarding the usefulness of positive and negative emotions.

Results The latent profile analysis of the leader's beliefs in the usefulness of positive and negative emotions identified four groups: High Usefulness (HU) Group, High Positive Usefulness (HPU) Group, Reference Group for comparison, and Low Usefulness (LU) Group. It was found that both the HU Group and the HPU Group, who perceive the usefulness of both types of emotions and positive emotions, respectively, showed higher levels of emotional repair and lower levels of relationship conflict within the team compared to the Reference Group and the LU Group.

Conclusions This study not only fills a gap in organizational research by establishing a clear link between leaders' emotional beliefs and team dynamics but also emphasizes the social influence of leaders' emotions within the team setting. The findings of this research advocate for a strategic update to leadership development programs, suggesting the integration of elements specifically designed to augment leaders' understanding and management of emotional dynamics within their teams.

Keywords Leadership, Emotion beliefs, Emotion usefulness, Emotion competence, Relationship conflict

Introduction

Leadership goes beyond managing tasks and people effectively; it also involves creating a work environment that fosters well-being and encourages positive employee

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engagement [1]. The close connection, between leadership and emotions has been extensively researched, highlighting the importance of leaders' emotional intelligence in shaping the workplace. Leadership is not a job but a complex social process that deeply influences employees' emotions, thoughts and behaviors thus significantly impacting their work experience. Emotional intelligence refers to a leaders' ability to recognize, understand and manage both their emotions and those of others [1, 2]. On the other hand, emotional competence entails applying these intelligence skills to achieve favorable organizational results, such as improved team performance. When a leader skillfully uses their EI to enhance team

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dynamics and productivity they exhibit emotional competence [3].

Affective Events Theory (AET) serves as a foundational framework for understanding how leaders utilize their individual emotional intelligence to enhance team-level performance. According to AET, leaders have the ability to initiate events that significantly affect the emotional experiences and well-being of their teams. These emotional events, whether positive or negative, cause shifts in the team's emotional responses, which in turn influence their work performance and interpersonal dynamics [2]. Essentially, the theory underscores the critical significance of leaders' emotional behaviors in cultivating an organizational environment that can either foster high morale and productivity or breed dissatisfaction and conflict.

Subsequent research endeavors have extended the application of AET to diverse professional contexts, exploring how leaders' emotional competence augments teams' beneficial dynamics. A leader' emotional competence is crucial in mitigating an undesirable effect from negative emotions and the resulting potential conflicts within teams, thereby enhancing overall team performance [4]. To explain the mechanism of how a leader's individual level emotional intelligence can become a team level emotional competency, Cropanzano, Dasborough, and Weiss [5] employed AET, arguing workplace events would trigger team members' emotional responses that can significantly impact their work attitudes and behaviors. Leaders with high emotional intelligence are able to understand that these emotional experiences would happen within their team and adept at recognizing, managing, and intervening in team members' emotional experiences by creating positive affective events, such as providing support and constructive feedback. These emotionally effective leaders can foster a positive team climate, enhance cohesion, and improve overall team performance. The ability to navigate and influence team members' emotional experiences is crucial in driving successful team outcomes, particularly in challenging and uncertain environments. For instance, the adept management of organizational policies by leaders, such as implementing office guidelines amidst the COVID-19 pandemic, can serve as affective events that shape the responses of team members based on their individual emotional appraisals of these events [6]. Thanks to the leaders' effort and emotional management, the team members experienced the pandemic as a controllable situation or even an opportunity for business rather than an unexpected risk. Such studies draw attention to the instrumental role of leaders' emotional competence in navigating team dynamics and fostering a conducive work environment, particularly in times of uncertainty and crisis.

Moving beyond the examination of leaders' emotional competence, the discussion now expands to encompass a broader domain within general and clinical psychological research, focusing on the significant role of beliefs about emotions and their impact on human behavior and well-being. For instance, Kneeland et al. [7] investigated beliefs about emotional malleability, emotion regulation, and psychopathology, highlighting the integration of affective and clinical science in understanding emotional processes and mental health outcomes. Tamir et al. [8] examined the effects of beliefs about emotions on individual well-being, contributing valuable insights to the broader psychological literature. Similarly, Ford & Gross [9] and Manser et al. [10] explored the consequences of beliefs portraying emotions as unchangeable and inherently negative, shedding light on their impact on individual well-being and broader psychopathological outcomes. Transitioning to the organizational psychology domain, Stephens and Carmeli [11] conducted a notable study on the positive effect of expressing negative emotions on knowledge creation capability and performance of project teams, contributing to our understanding of emotions in the workplace. While there has been significant exploration of emotions in organizational settings, a notable research gap exists regarding how a leader's beliefs about emotions impact the collective emotional experience of their teams. Interest in leaders' beliefs about emotions and their influence on emotional regulation efforts and overall effectiveness is on the rise.

The notion of usefulness in the context of emotion belief within leadership is also a compelling area of study. It aligns with the concept that emotions can be strategically advantageous in the workplace, as suggested by Pirola-Merlo et al. [1]. The study by Stephens and Carmeli [11] is one of the few that explores this aspect, indicating that leaders who recognize the usefulness of expressing negative emotions within their teams are more likely to capture the values of information and knowledge hidden behind the negative emotions. Such work environments with expressed negative emotions could help the team members to confront constructive conflicts in ideas and perspectives rather than in interpersonal relationships. Their findings suggest that even negative emotions, when viewed as potentially beneficial, can lead to an increase in team performance.

In this study, our aim is to investigate the influence of leaders' beliefs regarding the usefulness of emotions on both the emotional competency and relational conflict dynamics within teams. This research endeavors to provide empirical evidence supporting the theoretical proposition that leaders' perceptions of the effectiveness of

emotions play a pivotal role in shaping team dynamics. Specifically, we hypothesize that the leader's beliefs about the usefulness of emotions will significantly impact not only the emotional competency within the team but also the occurrence and intensity of relational conflict. While our study primarily investigates the leader's belief in the usefulness of emotions, it's crucial to contrast our findings with the broader landscape of leadership research. Previous studies have underscored the significance of emotional intelligence, alongside skills, knowledge, and cognitive leadership competencies, in effective leadership [12]. However, our research contributes a unique perspective by specifically examining the impact of leaders' beliefs about the utility of emotions. By focusing on this leaders' attitudinal aspect rather than leadership capability, we shed light on a previously underexplored dimension of leadership dynamics, thereby enhancing our understanding of effective leadership practices. Recognizing the multifaceted nature of leadership, we acknowledge the need for a comprehensive approach to leadership development that encompasses these various dimensions.

In conclusion, our research accentuates the importance of considering individual level leadership attitudes, particularly beliefs about the usefulness of emotions, in shaping organizational dynamics. By showcasing the significant influence of leaders' beliefs in the usefulness of emotions on leadership effectiveness, our study contributes to the ongoing discourse on emotional competency in leadership. Furthermore, our findings suggest practical strategies for organizations to enhance these crucial beliefs regarding the usefulness of emotions in the workplace. This approach aims to cultivate leaders who are not only cognitively intelligent but also emotionally competent, capable of fostering positive team dynamics and achieving organizational goals. Through this study, we aim to provide a comprehensive understanding of the intersection between leadership emotion beliefs and team emotional competency, laying the groundwork for future research and practical applications in leadership development. By addressing these crucial aspects, organizations can cultivate resilient and adaptive leaders who are equipped to navigate the complexities of the modern workplace.

Literature review and theoretical background
Emotional competence in teams
Groups that collaborate and work interdependently demonstrate a unique capacity for collective emotional experience and expression as a cohesive team [13]. This suggests that individuals within a team, when working in close collaboration and depending on each other's contributions, are more likely to share emotional experiences.

For instance, the collective sense of pride and accomplishment is likely to be felt by a team upon successful attainment of a challenging task.

Recent studies have indicated that the emotional competency of a team is not merely an aggregation of the emotional competence of its individual members but rather a complex, emergent property of the collective [14]. Essentially, this implies that a team, as a synergistic unit, can cultivate a distinctive emotional competence that transcends the individual emotional intelligence of its constituents. Team leaders' individual role, however, can still have a team level impact given their leadership positions and authorities to change team dynamics. According to Cropanzano, Dasborough, and Weiss [5], team leaders can generate affective events that are emotionally experienced by team members throughout the whole team. The leaders' emotional intelligence determines the effectiveness of these affective events, leading to increased or decreased team level outcomes such as team's emotional intelligence. This phenomenon underscores that something unique emerges when people come together as a team, allowing them to navigate and manage emotions collectively. More importantly, these collective emotional experiences can be strategically designed and managed.

This concept aligns with the idea that individual emotional experiences contribute to the creation of group-level emotional structures and functions. For instance, emotional contagion refers to the phenomenon where the emotions of one team member can spread to others, affecting the overall emotional atmosphere of the team [15]. Likewise, vicarious influence processes involve team members being influenced by the emotions and reactions of their colleagues, further shaping the group's emotional dynamics [16]. In essence, individual emotions have a ripple effect within the team, ultimately forming the team's emotional landscape.

Leaders who guide teams play a crucial role in these dynamics. They have the ability to trigger emotional events within the team through their actions, decisions, and interactions with team members. For example, a leader's enthusiastic response to a team's achievement can amplify the positive emotions felt by the entire team. Conversely, if a leader responds negatively to a setback, it can influence the intensity and nature of emotional responses within the team [2]. In summary, leadership can significantly shape the emotional climate of a team, emphasizing the importance of leaders' emotional awareness and management skills in fostering a positive and productive team atmosphere.

When leaders assess emotional competence of a team, they undertake a comprehensive evaluation that probes the multifaceted emotional dynamics within the group.

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A pivotal aspect of this assessment involves gauging the team's capability for emotional awareness and access. This refers to the team's proficiency in recognizing and being receptive to the emotional experiences of its members [17, 18]. Essentially, leaders examine the extent to which the team is attentive to and acknowledges the emotional states of its members. This ensures that emotions are not merely overlooked or disregarded but are actively recognized and integrated into team interactions [19].

Additionally, leaders evaluate the team's proficiency in "recovering from negative moods" [14, 17, 18]. This aspect focuses on the team's resilience in the face of adversity or negative emotional experiences. It entails the team's ability to rebound from difficulties, such as setbacks, conflicts, or demanding situations, regaining a positive emotional equilibrium. The effective repair from negative moods within a team reflects its emotional maturity and adaptability [20]. This comprehensive assessment undertaken by leaders serves as a vital tool for gauging the team's overall emotional functioning. It enables leaders to gain insights into how well the team manages its emotional dynamics, which is a pivotal factor in determining the team's overall effectiveness and cohesion [21].

In the field of organizational psychology, it is widely acknowledged that leaders play a crucial role in molding team dynamics. Within this context, leaders' beliefs regarding the efficacy of emotions are instrumental, primarily through their expression of these beliefs, which serves as influential signals for all team members [11]. When these beliefs are expressed, they act as a bridge connecting individual emotional experiences with the broader concept of group emotional intelligence, including the emotional competency. Essentially, leaders' beliefs influence how conflicts are perceived, managed, and resolved within teams, thereby shaping the team's emotional climate.

The emotional processes occurring within groups are indicative of a team's emotional competency. Researchers and practitioners often employ instruments such as the Team-Trait Meta Mood Scale (T-TMMS) [14] and the Workgroup Emotional Intelligence Profile (WEIP) to measure and assess a team level emotional competence [17]. It serves as a critical predictor of various team outcomes, especially in settings that demand high interdependence among team members [22]. In such contexts, effectively navigating team conflicts becomes particularly vital, as it has significant implications for team performance, innovation, and overall cohesion. Therefore, leaders' assessments and interventions related to emotional access and management are fundamental in fostering a productive and harmonious team environment.

Adaptive emotional experiences and capabilities within a group are closely linked to an atmosphere that encourages emotional expression. In contrast, an environment that discourages emotional access is associated with maladaptive outcomes, such as avoidance and destructive behavior [23]. When emotional expression is fostered within a team, members are encouraged to consider one another's emotions and gain access to information about each other's reactions and abilities [24]. This applies to both positive and negative emotions. Positive emotions can enhance engagement in exploration and mastery, promoting a reinterpretation of challenging situations. Contrary to the intuitive expectation that negative emotions disrupt team relationships, they often serve as a prompt for addressing underlying issues, representing an essential response to effectively deal with problems and events [25].

Relationship or emotional conflict within the team
Promoting and acknowledging a variety of emotions, including negative ones, offers several advantages to teams, such as mobilizing emotional messages and leading to more informed and sound judgments [26]. Constructive expression of negative emotions, without blame or threats, fosters a sense of closeness within the team, improving mutual understanding and predicting better relational quality with lower relationship conflict [22]. A team leader who believes in the utility of both positive and negative emotions is more likely to foster an environment where emotional expression is encouraged, thus reducing relational conflicts. When conflicts arise, such leaders can de-escalate the situation by actively listening to the concerns of the conflicting parties, acknowledging their emotions, and guiding them toward constructive resolution. By promoting psychological safety, leaders create a space where team members feel secure in expressing their emotions and addressing conflicts openly. This approach not only resolves immediate conflicts but also prevents future ones by establishing norms of trust and open communication within the team.

When emotions are effectively managed by team leaders, it is expected that a relational conflict within teams can be avoided [26]. Leaders can significantly reduce relational conflict through a work environment that encourages the constructive expression of emotions, especially negative ones, which is a typical outcome of the effective emotional management. Since the team members are allowed to express their negative emotions without blame or threats, there are mutual understanding and improved relational quality. To summarize, leaders who endorse the utility of both positive and negative emotions create an atmosphere that supports open emotional expression

and constructive handling of emotions, thereby reducing the emergence of conflicts. Such a climate of emotional transparency and understanding contributes to lower levels of relationship conflict and enhances team cohesion and performance [22].

The relational conflict within the workplace refers to disagreements, disputes, or clashes that arise between individuals working together in a team or organization [27]. This type of conflict can have a significant impact on team dynamics and the overall work environment. When team members have conflicting opinions, goals, or ways of working, it often results in tension and friction. For instance, if two team members have different approaches to solving a problem, they may become annoyed with each other's methods or irritated by the perceived lack of cooperation. These negative emotions, such as annoyance, irritation, and frustration, can be a natural response to interpersonal conflict and can escalate if not addressed effectively. This can lead to a strained work atmosphere, decreased productivity, and even strained relationships among team members. Recognizing and managing such emotional experiences is crucial for maintaining a healthy and productive workplace [28].

Relationship conflict, specifically, is generally considered detrimental within groups, with lower levels of relationship conflict associated with higher performance, while higher levels of relationship conflict tend to lead to lower performance [27]. In groups where relationship conflict is effectively managed, members tend to be more comfortable with one another and can engage more constructively in work-related conflicts. Moreover, the resolved relational conflict enables individuals to authentically convey their reactions to workplace issues and events, facilitating knowledge sharing and collaborative problem-solving [2]. Stephens and Carmeli [11] discovered that leaders' expressing that emotions are useful to find values and problems in business projects, even if it was a negative emotion, constructively contributes to knowledge creation and enhances project performance outcomes. For example, a leader can state that sorrow is a signal of the need for repairing current teamwork, and thus without the expressed sadness in the office, it's difficult to identify and solve the problem. In summary, low relational conflict is an environment that embraces and comprehends team members' diverse emotions, promoting constructive responses within the team.

The leader's emotion beliefs and their impact on team dynamics

As previously mentioned, the leader's ability to manage emotions at the team level is crucial for various team outcomes, including reducing relationship conflict and improving overall performance [29]. In this regard, the leader's awareness of emotions can significantly influence the team's access to emotional information. Leaders' beliefs in the usefulness of emotions may play a critical role in determining how actively they engage their emotional intelligence in managing team dynamics [30]. Even when two leaders possess similar levels of emotional intelligence, their beliefs about the utility of emotions could lead to different applications of these skills. For instance, a leader who believes strongly in the usefulness of emotions is likely to actively leverage their emotional intelligence to influence team interactions positively, whereas a leader with less belief in the value of emotions might underutilize these skills, resulting in different emotional outcomes for the team.

Building on this understanding of the leader's role, it is important to clarify how we conceptualize team emotional competence. We refer team emotional competence to the collective ability of team members to recognize, understand, and manage emotions in a way that enhances team dynamics and performance. This concept differs from the individual emotional experiences and reactions of team members, which are personal and may vary widely. Team emotional competence emerges when these individual emotional abilities are effectively integrated and managed within the group context, leading to cohesive emotional functioning and better team outcomes.

Individuals who hold negative beliefs about emotions are more likely to be wary of their own emotional experiences and reluctant to engage with them. Such beliefs can hinder their willingness to express emotions to others, engage in healthy emotional interactions, and exhibit effective interpersonal behavior. Beliefs regarding the usefulness of emotions reflect one's fundamental attitude toward emotions, categorizing them as either "good" or "bad" [31]. Those who recognize the usefulness of both positive and negative emotions tend to understand the adaptive and instrumental nature of emotions, leading to the application of relatively effective emotion regulation strategies [32]. This is because individuals who value emotions are more inclined to access their emotional experiences, actively interpret situations triggering emotions, and engage in emotional exchanges with others, thereby enhancing their overall emotional well-being. Conversely, individuals who view emotions as negative, interfering with rationality and life, tend to avoid emotional experiences and are more likely to experience negative meta-emotions, wherein they assess and interpret their emotions negatively [9].

Research on emotional contagion and emotional event theory underscores that leaders possess the power to influence the emotions of individuals and groups. A leader's beliefs about the usefulness of emotions can alter the team's access to emotions collectively [2]. In

other words, a leader's belief in the usefulness of both positive and negative emotions can shape judgments regarding the value of emotional access, ultimately impacting the team's level of interest in and access to emotions. Consequently, differences in a leader's belief in the usefulness of emotions can lead to variations in the team's ability to manage emotions, including their ability to clearly recognize emotions, understand emotional experiences, and navigate emotions during conflicts, all of which can influence the level of relationship conflict experienced within the team.

Latent profile analysis, which has recently been increasingly used in work and organizational science, can be used to categorize leaders' emotion beliefs [33]. This systematic exploration assists in uncovering distinct profiles or subgroups within latent groups based on their emotion beliefs [33, 34]. In essence, it helps researchers identify unique patterns and groupings among individuals in terms of their emotional perspectives, shedding light on the intricacies of human emotional cognition and behavior. Given the absence of prior research on the latent profile of managers' emotion beliefs in the workplace, this study aims to investigate patterns emerging from the combination of leaders' beliefs about the usefulness of both positive and negative emotions. It seeks to examine whether distinct profiles emerge and whether these profiles are associated with differences in team level emotional competence and levels of relationship conflict. Following the exploratory approach adopted by Spurk et al. [33], we formulate the following exploratory hypotheses without imposing strict constraints:

> *Hypothesis 1: Leaders who believe both positive and negative emotions are useful will exhibit a positive impact on their teams' emotional competence and reduce relationship conflict within the team.*
> *Hypothesis 2: Leaders who believe both positive and negative emotions are not useful will exhibit a negative impact on their teams' emotional competence and increase relationship conflict within the team.*
> *Hypothesis 3: Leaders who believe that positive emotions are useful and negative emotions are not will experience a positive impact on their teams' emotional competence and reduce relationship conflict within the team, relative to leaders who do not believe in both categories.*
> *Hypothesis 4: Leaders who believe that negative emotions are useful and positive emotions are not will experience a positive impact on their teams' emotional competence and reduce relationship conflict within the team, relative to leaders who do not believe in both categories.*

Method
Participants
The study recruited individuals who were office workers aged 20 or older and residing in Korea. These participants were employed at workplaces with fewer than 300 employees and held managerial positions with a minimum of 3 years of leadership experience. A total of 326 subjects were recruited through an online survey company, with an average age of 49.83 years (standard deviation = 10.14). The age distribution was as follows: 8 individuals in their 20s (2.5%), 57 in their 30s (17.5%), 81 in their 40s (24.8%), 98 in their 50s (30.1%), and 82 in their 60s (25.2%). The gender distribution indicated 232 men (71.2%) and 94 women (28.8%).

The study participants held various positions, with 107 (32.8%) serving as managers, 69 (21.2%) as assistant managers, and 150 (46%) at the assistant manager level or higher. Regarding company size, 167 participants (51.2%) worked in companies with less than 30 employees, 96 (29.4%) in companies with 30 to 99 employees, and 63 (19.3%) in companies with 100 to 299 employees.

In terms of their primary fields of work, 86 individuals (26.4%) were involved in production/service, 63 (19.3%) in accounting/finance, 46 (14.1%) in human resources/organization, 28 (8.6%) in marketing, and 23 (7.1%) in information systems. Additionally, 8 participants (2.5%) were in the field of strategy/international management, and 72 (22.1%) were engaged in other areas.

Measures
Emotion Beliefs Questionnaire (EBQ)
The Emotion Beliefs Questionnaire (EBQ), developed by Becerra, Preece, and Gross [35], is designed to measure emotional controllability and usefulness across positive and negative emotional valences. The questionnaire comprises a total of 16 questions. The Korean version of the EBQ (EBQ-K) has been validated for use in the Korean context [36]. Respondents rate their agreement on a 5-point Likert scale, where higher scores generally indicate negative beliefs suggesting that emotion cannot be controlled and are not useful.

In this study, only 8 questions related to beliefs about the usefulness of positive and negative emotions were considered, such as 'There is very little use for negative emotions' and 'Positive emotions are very unhelpful to people'. The Cronbach's α values, a measure of internal consistency, were calculated for this study. The α coefficient was found to be .879 for positive emotion usefulness beliefs and .766 for negative emotion usefulness beliefs.

Team-Trait Meta Mood Scale(T-TMMS)

The Team-Trait Meta Mood Scale, developed by Aritzeta et al. [14], incorporates the three dimensions of attention, clarity, and repair of emotions, mirroring those found in the existing Trait Meta Mood Scale by Salovey et al. [37]. This scale is tailored to evaluate these subdimensions at the team level within a workplace context. For this study, the researchers reviewed the item contents through a translation and back-translation process to ensure suitability for use in the Korean cultural context and confirmed the validity of the factorial structure using Confirmatory Factor Analysis (CFA). It is measured with a 7-point Likert scale consisting of a total of 9 items, including 'In my team we usually care about what our workmates are feeling,' 'Although we might feel bad, all team members try to have a positive outlook,' and 'In this team we are able to describe our feelings.' In the current study, the internal consistency of the Team-Trait Meta Mood Scale was evaluated using Cronbach's α. The obtained α coefficients were 0.792 for attention, 0.810 for clarity, and 0.839 for repair.

Relationship conflict

Jehn & Mannix [27] divided the Intragroup Conflict scale developed by Jehn [38] and the process conflict items developed by Shah and Jehn [39] into Task Conflict, Relationship Conflict, and Process Conflict factors through confirmatory factor analysis. In this study, the Relationship Conflict question was used to measure relationship conflict within the team, such as 'Relationship tensions within the team are severe.' The Relationship Conflict question consists of a total of 3 questions and is structured on a 5-point Likert scale. Cronbach's α in this study was .871.

Statistical analysis

Our aim was to identify the characteristics and extent of disparity in team leaders' beliefs about the usefulness of emotions. To investigate this, we applied latent profile analysis, a statistical method that groups team leaders into distinct categories based on their beliefs about the emotional value. We hypothesized that the levels of emotional competence and relational conflict within a team are influenced by team leaders' beliefs. We employed Mplus 7 for the latent profile analysis, with the goal of classifying the study participants into latent classes. These groups were determined by their distinct perspectives on the value of emotions, To ascertain the optimal number of subgroups, we evaluated several statistical criteria, including the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC: [40]), Sample-Size-Adjusted BIC (SSA-BIC: [41]), and likelihood ratio test statistics such as the Lo-Mendell-Rubin likelihood ratio test (LMR: [42]) and Bootstrap Likelihood Ratio Test (BLRT: [40]), along with the Entropy index.

To compare how emotional competence and relationship conflict levels differed across the identified subgroups, we conducted an analysis of variance (ANOVA). In this analysis, scores from the Trait Meta-Mood Scale (T-TMMS) and the relationship conflict scale were used as dependent variables, while membership in the identified latent profiles served as the independent variable.

Results

Determining the number of latent groups

Latent profile analysis was conducted to identify latent groups among team leaders based on their beliefs in the usefulness of both positive and negative emotion. The analysis began with a two-group model, with subsequent models introducing additional classes incrementally. To determine the most suitable model, we evaluated statistical criteria as well as the interpretability of each model, which led to the conclusion that the four-group model was the most optimal. Table 1 shows the comparison of model fit for different latent group models.

Table 2 shows the posterior mean probabilities for the model with four groups. These probabilities represent the average posterior probability of the four-class model accurately predicting class membership for individuals [43]. This facilitates the evaluation of the accuracy of group classification. Essentially, if the values on the diagonal are high and the values off the diagonal are low, it indicates precise group classification. In this analysis, the range of posterior mean probabilities was observed to be between 0.798 and 0.917.

Table 1 Comparison of latent group model fit

Model	LL	FP	AIC	BIC	SSA_BIC	LMR (*p*)	BLRT (*p*)	Entropy
2-Class	−1583.374	7	3180.749	3207.257	3185.053	0.000	0.000	0.672
3-Class	−1559.001	10	3138.002	3175.871	3144.152	0.064	0.000	0.751
4-Class	−1544.809	13	3115.619	3164.849	3123.613	0.363	0.000	0.761
5-Class	−1520.799	16	3073.598	3134.189	3083.438	0.098	0.000	0.812

Table 2 Mean posterior probabilities

Class	Mean posterior probabilities			
	1	2	3	4
1	0.917	0.069	0.014	0.000
2	0.047	0.856	0.060	0.037
3	0.033	0.168	0.798	0.000
4	0.000	0.087	0.000	0.913

The characteristics of classified latent groups

When analyzing the characteristics of the latent groups categorized into four categories, Class 2, which closely aligns with the overall mean values, was designated as the "reference group". Subsequently, a comparison was conducted between Class 2 and the other latent groups regarding their relative values.

Among the four latent groups, Class 1 demonstrates the lowest values for both types of emotion usefulness, indicating a perception that both positive and negative emotions are useful. Consequently, this class was labeled

as the "High Usefulness Group (HU)." Conversely, Class 4 exhibits the highest values for both measures of emotion usefulness, suggesting a perception that both positive and negative emotions are not useful, thus receiving the label "Low Usefulness Group (LU)."

In the case of Class 3, it demonstrates a unique pattern where the usefulness of negative emotions is perceived to be as low as that of Class 4, but individuals in this group perceive positive emotions as useful. Therefore, it represents a group showing distinct perceptions of usefulness for both types of emotions. Consequently, this group was named the "High Positive Usefulness Group (HPU). Table 3 presents the latent class model estimation, and Fig. 1 illustrates the estimation results for the 4-latent group model.

Differences in emotional competence and level of relationship conflict within the team

To investigate potential differences in emotional competence and levels of relationship conflict within the team among the latent groups distinguished by the level of leaders' beliefs about emotion usefulness, an analysis

Table 3 Latent class model estimation

Latent Classes

	Total		Class 1 (HU)		Class 2 (reference)		Class 3 (HPU)		Class 4 (LU)	
N(%)	100% (n=326)		18.71% (n=61)		58.28% (n=190)		10.12% (n=33)		12.88% (n=42)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Positive Emotion Usefulness	8.14	2.87	5.01	0.94	8.49	1.34	5.94	1.25	13.17	1.61
Negative Emotion Usefulness	10.83	2.95	7.07	1.79	10.94	2.02	13.93	1.68	13.32	1.69

Class 1 (HU) High Usefulness Group, *Class 2* Reference Group, *Class 3 (HPU)* High Positive Usefulness Group, *Class 4 (LU)* Low Usefulness Group
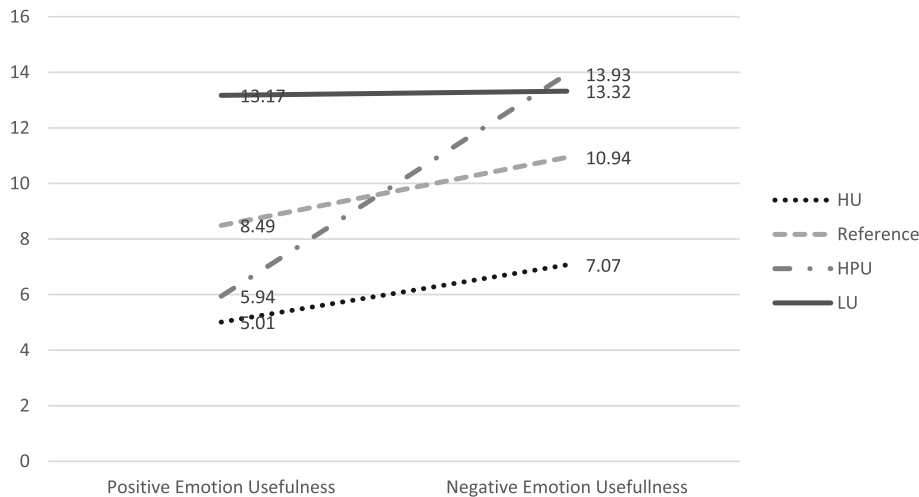

Fig. 1 Estimation results of 4-latent group model

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of variance (ANOVA) was performed. The four latent groups were treated as independent variables, while the T-TMMS scale scores [14] and relationship conflict scale scores [27] were regarded as outcome variables.

For the three dimensions of emotional competence within the team, namely emotional attention, clarity, and repair as measured by the T-TMMS, significant differences among groups were noted in the repair dimension following post hoc tests. It was found that both the "HU" and the "HPU" groups exhibited higher levels of emotional repair compared to the "Reference Group" and the "LU" group. This suggests that leaders who perceive emotions as useful, even for one of the two types, tend to actively engage in and make efforts toward emotional recovery within the team.

Regarding relationship conflicts, both the "HU" and the "HPU" groups were found to exhibit low levels of relationship conflict. In contrast, the "Reference Group" displayed a higher level of relationship conflict. Notably, the "LU" group, characterized by the belief that both types of emotions are not useful, reported experiencing the highest level of relationship conflict.

In summary, leaders' beliefs about the usefulness of emotions appear to particularly influence differences in team emotional competence and relationship conflict, especially in situations requiring efforts for emotional recovery during team conflicts. Groups led by leaders who perceive all emotions as unnecessary and useless, regardless of emotional valence, demonstrated less engagement in team emotional recovery efforts and higher levels of relationship conflict. This suggests that leaders' attitudes toward emotions play a crucial role in shaping team dynamics and conflict resolution strategies. Table 4 presents the detailed results of the differences in emotional competence and relationship conflict among the latent groups.

Discussion

Theoretical implications

Throughout our investigation, we aimed to test the hypothesis that varying beliefs among team leaders regarding the usefulness of emotions would lead to discernible differences in both emotional competence levels and the occurrence of relational conflicts within their teams. Employing latent profile analysis, we categorized participants into four distinct latent groups, each defined by unique emotional belief profiles. This rigorous classification process relied on stringent criteria, including information criterion indices, likelihood ratio test statistics, and nuanced group characteristics. Among these groups, the Reference Group (58.28%) served as a foundational benchmark against which we juxtaposed the remaining three groups: the HU Group (18.17%), valuing

Table 4 Differences inemotionallcompetencee andrelationshippconflictt in Team Level

Variables	Latent Class	M	SD	F	Post test (Scheffe)
T-TMMS Attention	1. HU	14.45	4.07	2.99*	2,1,4,3
	2. Reference	13.54	2.42		
	3. HPU	14.66	3.21		
	4. LU	14.45	2.31		
	Total	13.94	2.89		
T-TMMS Clarity	1. HU	14.24	3.99	3.44*	2,4,1,3
	2. Reference	13.21	2.48		
	3. HPU	14.33	3.30		
	4. LU	14.16	2.03		
	Total	13.64	2.89		
T-TMMS Repair	1. HU	16.04	3.47	**8.55***	**4,2**<1,3
	2. Reference	14.47	2.70		
	3. HPU	16.27	2.67		
	4. LU	14.09	2.30		
	Total	14.90	2.91		
Relationship Conflict	1. HU	5.73	2.60	**18.29***	**3,1 < 2*<4***
	2. Reference	6.75	2.14		
	3. HPU	5.51	2.26		
	4. LU	8.78	2.41		
	Total	6.69	2.45		

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

M Mean, *SD* Standard Deviation, *HU* High Usefulness Group, *Reference* Reference Group, *HPU* High Positive Usefulness Group, *LU* Low Usefulness Group, *T-TMMS* Team-Trait Meta Mood Scale

the utility of both positive and negative emotions; the HPU Group (10.12%), endorsing solely positive emotions; and the LU Group (12.88%), attributing no discernible utility to either positive or negative emotions. Our examination primarily focused on emotional competency levels and relational conflicts within the team. Our findings provided support for Hypotheses 1, 2, and 3, revealing that the HU Group and the HPU Group exhibited superior emotional recovery capacities compared to the Reference Group and the LU Group. These findings highlight the potential for robust beliefs in the utility of emotions to bolster strategies for emotional recovery amidst relational conflicts within teams. While this study centers on the leader's role in emotional management, it is essential to recognize the influence of team members' emotional intelligence. Teams with emotionally intelligent members are better equipped to manage emotions collectively, which can further enhance the effectiveness of the leader's emotional management strategies. However, this study does not address the impact of individual or collective emotional competencies of team members, as the focus is primarily on the leader's pivotal role in guiding emotional expression and regulation within the team.

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As such, our study contributes to the field by advancing four critical conceptual implications.

Firstly, building upon the framework of AET [2], our study demonstrates the power of leaders' emotion beliefs that wield a significant influence over both the team's adeptness in managing emotional experiences and the prevalence of relational conflicts. The underlying mechanism was also hinted by utilizing the T-TMMS, a multidimensional scale assessing emotional competence. While our study refrained from explicitly delineating emotional competence into its constituent dimensions of clarity, attention, and repair within the hypotheses, it's imperative to recognize that these dimensions are often intertwined and may not manifest autonomously. Emotional competence, as a multifaceted construct, encompasses various facets of emotional functioning, including the ability to perceive, understand, and regulate emotions effectively. By framing our hypotheses in broader terms related to emotional competency levels and relational conflicts within the team, we facilitated a comprehensive examination of the overarching impact of leaders' emotional beliefs on team dynamics.

Furthermore, our findings revealed the mechanism of emotional repair as a constituent element of emotional competence, alongside clarity and attention. While emotional clarity and attention exhibited no statistically significant differences across the identified groups, our exploration unveiled intriguing insights into the role of emotional repair in navigating relational conflicts within the team. Grounded in AET [2], which posits that leaders' emotional actions can significantly shape team dynamics, our findings suggest that leaders endorsing the usefulness of emotions may be better positioned to facilitate emotional repair processes within their teams. This implies that fostering a culture that encourages the recognition and effective management of emotions, guided by leaders who espouse the usefulness of emotions, could serve as a pivotal mechanism for resolving relational conflicts and enhancing overall team effectiveness.

Among the three dimensions of T-TMMS, clarity and attention showed no significant differences, suggesting that other factors, such as the belief in emotion controllability rather than the belief in the usefulness of emotions, might influence these dimensions. In a study by Becerra et al. [44], beliefs in emotion controllability were found to be related to specific emotion regulation strategies, such as cognitive reappraisal, while beliefs in usefulness were less related. This indicates that different types of emotional beliefs might differentially relate to various dimensions of emotional regulation capabilities. Exploring the role of beliefs in emotional controllability in organizational relational management, including dimensions such as clarity and attention, could also be

beneficial. By understanding how leaders' beliefs in their ability to control emotions influence their emotional regulation strategies, organizations can better support leaders in developing more effective emotional management practices.

Secondly, our study elucidates the intricate dynamics of leadership and emotion, shedding light on how an individual, such as a team leader, impacts the collective dynamics and emotional climate of the entire team. Negative interpretations and evaluations of emotions at the personal level can make emotional experiences daunting, leading to challenges in adaptive responses and often resulting in maladaptive coping strategies such as avoidance [45]. Recent research indicates that these individual-level processes extend beyond personal boundaries, influencing complex contexts like organizational interactions, where leaders play pivotal roles in decision-making within teams. Interactions among organizational members frequently involve the expression of emotions, encompassing both positive and negative aspects. Stephens and Carmeli [11] underscore the significance of negative emotional expression within organizations, advocating for the embracing and expression of negative emotions to enhance knowledge creation capabilities and project performance. Despite the functional role of emotions in the workplace, they are often overlooked [46]. This study aims to bridge this gap by examining the functional role of effectively managing emotions, particularly emphasizing the need for a healthy approach to dealing with negative emotions to facilitate problem-solving and communication within teams.

Strategies for perceiving, interpreting, and evaluating emotional experiences vary among individuals. Negative interpretations and evaluations about emotions at the personal level are known to make emotions daunting, making it challenging to approach emotional experiences adaptively, and are often associated with maladaptive coping strategies such as avoidance [45]. With reference to the results of this study, it appears that differences in the interpretation and evaluation of emotions influence not only individuals at a personal level but also have a significant impact within complex contexts, such as organizational interactions, where leaders play a crucial role in decision-making within teams.

Thirdly, the findings imply a positive role for negative emotions within a work organization. Interactions among members within an organization often involve the expression of emotions. Stephens and Carmeli [11] underscore the significance of negative emotional expression within organizations. Recognizing the emotional ambivalence inherent in both positive and negative emotions [47], they advocate for creating an atmosphere that embraces negative emotions within the team and allows

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their expression, as this contributes to the development of knowledge creation capabilities and enhances project performance. Despite emotions in the workplace often being overlooked [46], this study highlights the functional role of effectively managing emotions in facilitating communication for problem-solving, emphasizing the need for a healthy approach to dealing with negative emotions.

In our study, as team leaders perceived the usefulness of not only positive emotions but also negative emotions, efforts for team emotional repair increased, and conflict levels decreased. However, there was no significant difference between the HU Group, which acknowledges the usefulness of both types of emotions, and the HPU Group, which acknowledges the usefulness of positive emotions. Individuals who perceive even negatively regarded emotions such as anger, frustration, and irritation as useful are likely to have a better understanding of the functional aspects of negative emotions. At the individual level, emotions facilitate decision-making and prepare for action. At the group level, emotions facilitate communication and influence others [48]. Expressing negative emotions constructively can lead to functional outcomes. The lack of a clear distinction between the HU Group and the HPU may be because this study did not adopt variables that could sensitively capture group differences in the utility beliefs of negative emotional expressions as dependent variables.

Fourthly, the study delved into differences in relational conflicts among the groups. The findings illuminated that teams led by the HU Group and the HPU experienced lower levels of relational conflicts compared to their counterparts in the other two groups. This observation underscores the central hypothesis of this research, asserting that leaders' emotional beliefs can profoundly influence the team's response to emotional events, their competency in managing such events, and the behavioral manifestation of conflicts within the team.

In the same vein, an exploration of the mechanisms underlying these differences in relational conflicts unveils intriguing insights into the interplay between leaders' emotional beliefs and team dynamics. Specifically, leaders who endorse the utility of both positive and negative emotions are likely to foster an environment that encourages open expression and constructive handling of emotions, thereby mitigating the emergence of conflicts. In contrast, leaders who predominantly emphasize the usefulness of positive emotions may still contribute to a positive emotional climate but might overlook the importance of addressing negative emotions adequately, potentially leaving underlying tensions unresolved. This nuanced understanding underscores the complexity of emotional dynamics within teams and emphasizes the critical role of leaders' beliefs in shaping team interactions and outcomes.

Practical implications

In addition to presenting theoretical and conceptual advancements, our study offers practical implications for enhancing leadership capabilities within teams by emphasizing the integration of leaders' emotional beliefs into existing leadership development programs. While traditional programs often prioritize conflict resolution skills, our research suggests that enhancing leaders' awareness of emotions' functional dimensions is crucial for effective conflict management. By incorporating modules on emotional beliefs and their impact on team dynamics, organizations can equip leaders with tools to proactively navigate emotional challenges. For instance, Boyar et al. [49] proposed a leadership training program integrating emotional intelligence and beliefs, emphasizing emotional awareness and regulation for managing team dynamics and conflicts. Through experiential learning and case studies, participants gain insights into applying these concepts in real-world scenarios. Reflective exercises and peer discussions deepen leaders' understanding of emotional beliefs' impact on team interactions, fostering a culture of emotional intelligence and collaboration within organizations.

Moreover, drawing insights from research by Zhang et al. [50], which explores how teachers' emotional beliefs impact learning engagement during online training, our study advocates for tailored leadership training initiatives that cater to individual leaders' unique emotional belief profiles. By leveraging assessments to discern leaders' beliefs regarding the utility of emotions, organizations can tailor training programs to target areas of improvement more precisely. For instance, leaders who perceive negative emotions as less advantageous, as identified through assessments, may benefit from interventions aimed at reframing their perceptions and fostering a more balanced understanding of the roles of both positive and negative emotions in team dynamics. This approach, while initially developed in educational contexts, holds significant potential for leadership development, emphasizing the importance of addressing emotional beliefs to enhance leadership effectiveness within organizations.

Furthermore, in light of the demonstrated impact of emotional intelligence and regulation on leadership effectiveness, as highlighted by Edelman and van Knippenberg [51], our research underscores the critical importance of promoting emotional awareness and regulation in leadership training programs. Cultivating an environment that encourages leaders to reflect on their emotional beliefs and develop strategies for effective emotional regulation can nurture emotionally intelligent leaders proficient in

managing team dynamics and averting conflicts before they escalate [52]. This proactive approach not only fosters a culture that values emotional intelligence but also encourages open communication and collaboration among team members, thereby enhancing organizational effectiveness.

Lastly, our study yields practical implications that hold significant relevance for enhancing leadership capabilities within teams. Drawing on insights from seminal works such as Edmondson [53], our research highlights the critical importance of fostering a culture of psychological safety within organizations. By creating an environment where team members feel safe to express emotions, even if it's negative, organizations can promote open communication, learning, and team effectiveness. Furthermore, Edmondson's [54] work provides practical insights for leaders and organizations on fostering psychological safety, emphasizing the importance of creating an environment where employees feel comfortable taking risks, sharing vulnerabilities, and collaborating openly. Building upon this foundation, organizations are encouraged to foster a culture of psychological safety where leaders feel empowered to openly discuss their emotional beliefs and seek support when needed. Creating avenues for leaders to engage in regular dialogue about emotions and their impact on team dynamics can foster a culture of trust and mutual respect within the organization. By establishing an environment where leaders feel secure in sharing their perspectives on emotions without fear of judgment or reprisal, organizations can cultivate open communication and collaboration, ultimately bolstering team emotional competence and mitigating the likelihood of conflicts.

Limitations and future research directions

This study has several limitations that suggest directions for future research. Firstly, it is based on the emotional events theory, which primarily focuses on the emotional experiences and responses of leaders within teams. However, it lacks a comprehensive examination of the emotion beliefs held by team members themselves.[1] Future

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[1] To address the reviewer's concern about the potential for Common Method Bias (CMB), the marker variable approach was used to test the influence of Common Method Variance (CMV) [55, 56]. The results indicated that the impact of CMV was negligible in that: [1] The chi-square difference test between the Confirmatory Factor Analysis (CFA) model with a marker variable and the CFA model without a marker variable was not significant [2], There were negligible differences in factor correlations and factor loadings between the two models, and [3] None of the factor loadings on the marker variable were significant. These findings are summarized in additional file. The marker variable chosen for this analysis was Diener's Satisfaction with Life Scale [57]. This variable was selected because it is theoretically unrelated to the primary constructs under investigation in the study. Specifically, while our study focuses on emotion beliefs and emotion competence, life satisfaction measures a broader subjective well-being concept, which is distinct from the psychological or behavioral constructs we aim to assess. These findings are summarized in additional file.

research should aim to address this gap by including measurements of team members' emotion beliefs. By incorporating perspectives from all team members, researchers can gain a more holistic understanding of emotional dynamics within teams and their impact on team performance and problem-solving behaviors. Additionally, exploring the interplay between leaders' emotion beliefs and those of team members could provide valuable insights into how shared beliefs influence team dynamics and outcomes. By addressing these limitations and advancing our understanding of emotion beliefs at both the leader and team member levels, future research can contribute to the development of more effective interventions and strategies for promoting emotional intelligence and teamwork in organizational settings.

Secondly, future studies could employ longitudinal or experimental designs to investigate the causal relationships between emotion beliefs, team processes, and performance outcomes, allowing for a deeper understanding of the mechanisms underlying emotional competence within teams. It should be noted that, in this study, emotional competence and conflict levels were measured based on surveys, lacking a measurement of "actual" behavior in team conflict situations. Future research could benefit from approaching situations where emotional exchanges occur in emotional conflict situations based on the level of emotional beliefs and measuring the actual level of effort in recovering and resolving conflicts. This approach would provide a more realistic assessment of team behavior in conflict situations.

Furthermore, it was expected that groups recognizing and feeling the usefulness of both positive and negative emotions would show relatively more positive outcomes compared to other latent groups. However, no clear level differences in dependent variables were observed. As mentioned earlier, this might be due to the absence of variables that could sensitively capture the role of negative emotion usefulness beliefs. Therefore, in future research, it is crucial to closely examine how team leaders who understand the function and usefulness of negative emotions exert distinctive influence on team members and within the team.

Thirdly, contrary to the expectation outlined in Hypothesis 4, a group that perceives negative emotions as useful while not finding positive emotions useful was not identified. The Reference Group, encompassing the majority of research participants, also tends to perceive less usefulness for negative emotions. Overall, the results suggest that, in general, most people evaluate positive emotions as relatively more useful and positive compared to negative emotions. In the future studies, these topics can be explored more by finding cases where high negative emotion usefulness and LPU coexist.

Fourthly, it should be noted that this study targeted individuals in leadership positions within the South Korean workplace, where there was a higher proportion of male team leaders. This gender imbalance may have implications for the generalizability of the findings. Additionally, there may be limitations in generalizing the results of latent profile analysis conducted in a single cultural context to different cultural contexts. Therefore, future research should aim to achieve gender balance and explore whether the findings of this study can be applied to other cultural contexts [58]. In the Korean context, distinct patterns of emotional expression are influenced by cultural norms and societal expectations. A recent study by Steers and Shim [59] has confirmed the relevance of cultural dimensions, such as strong collectivism, in understanding Korean business leadership behaviors and organizational cultures. This emphasizes the importance of ongoing exploration into how cultural factors shape leadership dynamics. Moreover, it is crucial to acknowledge that female managers may moderate the relationship between job stress and emotional labor for public employees in male-dominated organizations. The study conducted in Korea provides evidence that gender dynamics play a significant role in shaping employees' experiences of stress and emotional labor within organizational contexts [60].

Lastly, a limitation of this study is the focus on the leader's emotional intelligence without accounting for a possible impact by the emotional competencies of team members. Future research should explore the interplay between leaders' and team members' emotional competencies to provide a more comprehensive understanding of team emotional dynamics.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s40359-024-02202-w.

Supplementary Material 1.

Authors' contributions
Jin Suk Park (JS Park) and Jaeeun Shin (J Shin) served as co-first authors, with Jin Suk Park making substantive contributions to the conception of the work and participating in drafting and revising the manuscript. Jaeeun Shin contributed significantly to hypothesis formulation, and data analysis, played a crucial role in data acquisition and interpretation, and participated in drafting and revising the manuscript. Taehun Lee (T Lee) contributed to the identification of the research problem and the conception and design of the work, data analysis, provided substantial input to data acquisition and interpretation. Additionally, Taehun Lee served as the corresponding author, overseeing communication related to manuscript submission and revision, and contributed to manuscript revision for accuracy and coherence.

Data availability
The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
This study was conducted under the approval of the Institutional Review Board (IRB) of Chung-Ang University with the following reference number: 1041078-202112-HR-350-01. Informed consent was obtained from all individual participants included in the study.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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