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The appraisal patterns and response types of enthusiasm: a comparison with joy and hope

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ABSTRACT

Enthusiasm is a relatively under-explored emotion. The current research explores the unique characteristics of enthusiasm by examining its cognitive appraisals (Study 1, N = 300) and response types (Study 2, N = 298) and comparing it with joy and hope. Participants in both studies recalled and rated events where they felt enthusiasm, joy, or hope. Study 1 revealed that enthusiasm occurs in pleasurable, intense situations linked to desired goals. More than joy, it is driven by goal-achievement anticipation. Compared to hope, enthusiasm is associated with more control, less uncertainty, and immediate relevance. Study 2 defines enthusiasm as a positive, energetic state marked by smiling, presence, fulfilment, and thoughts of positive outcomes. Compared to joy, it incites more eagerness, risk willingness, and inclination to join a movement. More than hope, it triggers immediate action without contemplation of negative outcomes. We conclude that enthusiasm is a positive, energetic condition often triggered by pleasurable, intense situations aligning with desired goals. It differs from joy and hope. Enthusiasm drives action when goals are attainable, and risks will likely pay off. Hope emerges when a goal is uncertain and distant. Joy typically follows goal accomplishment and is associated with feelings of connection and a desire to savour the moment.

Nothing great was ever achieved without enthusiasm.

Ralph Waldo Emerson

When the renowned American philosopher and poet, Ralph Waldo Emerson, wrote this phrase in 1841, it was unusual to attribute such a high degree of importance to enthusiasm. In current times the landscape has shifted. Today, in advertisements for recruitment, companies often mention that they are looking for enthusiastic employees. In the field of customer experience, customer enthusiasm is considered a key variable (Bolten et al., 2006). Pierce (2021) asserts that emotions such as enthusiasm can aid in understanding what motivates individuals' thoughts and behaviours

within the policy process. It helps to better comprehend the motivations, decision-making, and behaviour of both policy elites and the general public. In education, teachers' enthusiasm is seen as instrumental for increasing students' intrinsic motivation and vitality (Patrick et al., 2000). There is also evidence for the importance of enthusiasm in contributing to team success (Sandberg, 2007; Walker, 2002). Thus, enthusiasm is not only proposed as a significant motivator of individual behaviour, but also as a powerful influence on the motivation of others.

While these insights indicate the importance of enthusiasm in different areas, it should be acknowledged that little is known about the exact profile of

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enthusiasm and how it can be distinguished from other positive emotions. Studying enthusiasm can provide insights into how positive emotions can be leveraged to understand customer behaviour and improve personal and professional outcomes. Additionally, it can enhance educational strategies and workplace productivity. In the current research, we present an empirical approach to gain a better understanding of enthusiasm. For this purpose, we examined the appraisal patterns and response types of enthusiasm. By examining how these differ from joy and hope – two related positive emotions – we aim to establish a specific emotion profile of enthusiasm.

In the current research, we utilise a theoretical framework, known as appraisal theory, (see e.g. Ellsworth & Scherer, 2003; Frijda, 1988; Roseman et al., 2020). A central tenet of this theory is that emotions are elicited based on a person's appraisal – a subjective evaluation – of the personal significance of a situation, object, or event considering one's motives, interests, and goals (e.g. Roseman & Smith, 2001). Distinct emotions connect to distinct concerns and are tied to people's appraisal of their situation. Numerous empirical studies have supported the notion that emotions can be distinguished by their appraisals (e.g. Frijda et al., 1989; Roseman et al., 1994; Smith & Ellsworth, 1985). People may, for example, feel pride when they have accomplished something they attribute to their own effort (Williams & DeSteno, 2008), but discomfort when they receive something they feel they do not deserve (Van den Bos et al., 2011).

Distinct emotions may also evoke distinct response types. Generally, five different response types are mentioned in literature: feelings, thoughts, action tendencies, actions, and emotivational goals (e.g. Frijda, 1987; Roseman, 1984). These responses align with the specific function of an emotion. Given that different emotions correspond to different goals, motives, and interests, they also entail varying response types. For example, people who experience distress often cry out, while people who are disgusted often turn away from something (Roseman et al., 1994). Studies on response types are not as numerous as appraisal studies, but different scholars have shown that emotions can be distinguished based on their response profiles (e.g. Roseman et al., 1994; Van Dijk & Zeelenberg, 2002; Zeelenberg et al., 1998).

In research on emotions, negative emotions have received more attention than positive ones (e.g. Ellsworth & Smith, 1988b; Roseman et al., 2020). Likewise, studies examining appraisals and response types have predominantly focused on negative emotions, such as fear, anger, sadness, regret, and disappointment (e.g. Frijda et al., 1989; Roseman et al., 1994; Van Dijk & Zeelenberg, 2002; Zeelenberg et al., 1998).

With the emergence of positive psychology, interest in positive emotions has been rising (Fredrickson, 1998; Seligman, 2002). This has, for example, resulted in studies on awe (e.g. Keltner & Haidt, 2003), gratitude (e.g. Bartlett & DeSteno, 2006), hope (e.g. Averill et al., 1990; Luo et al., 2022), joy (e.g. Johnson, 2020), and pride (e.g. Tracy & Robins, 2007; Williams & DeSteno, 2008). Research has shown that positive emotions are elicited and differentiated by different patterns of appraisals and response types. For example, desire is strongly associated with goal orientation, as it is an emotion people often experience when they see something they want (Belk et al., 2003). Studies also have shown that positive emotions, such as joy and hope, can be differentiated based on different appraisal patterns (Roseman et al., 2020; Tong, 2015). To illustrate how positive emotions can be differentiated based on appraisals, consider pleasantness as an appraisal dimension. Generally, positive emotions are experienced in pleasant circumstances. Joy typically has a high level of pleasantness (e.g. Watkins, 2020). Still, positive emotions can also be experienced in less favourable situations. One can be hopeful, even when confronted with bad news (Schou et al., 2005). Acknowledging the historical focus on negative emotions, we introduced additional dimensions that are more characteristic of positive emotions, such as *connectedness*. For instance, love is an emotion that is typically high on *connectedness* (Hazan & Shaver, 1987), while boredom ranks lower on this dimension (Barbalet, 1999).

In the current research, we contribute to this promising and growing literature on positive emotions by examining the specific patterns of appraisals and response types that are associated with enthusiasm. While enthusiasm has been discussed in the philosophical literature (e.g. Verhoeven, 1972), empirical research that examines the specific patterns of appraisals and response types that are associated with enthusiasm, and which differentiates it from other positive emotions is lacking. Our research aims to fill this gap, contributing to the body of knowledge on positive emotions by specifically investigating the appraisals and response types tied to enthusiasm. Empirical evidence from research in customer experience (Bolten et al., 2006), education (Patrick et al., 2000), and team success (Sandberg, 2007; Walker,

2002), underscores the relevance of enthusiasm across various domains. Through research, we can gain valuable insights regarding the origins of enthusiasm, the diverse ways people react to it, and the interplay between individual enthusiasm and broader contextual influences.

Further, we assess how these aspects of enthusiasm diverge from those associated with joy and hope, two positive emotions seem closely related to enthusiasm and that correspond with the motivational and goal-directed aspects we aim to explore with enthusiasm. We chose to compare enthusiasm with joy because joy is often seen as a fundamental emotion from which other positive emotions might derive (e.g. Ellsworth & Smith, 1988a; Fredrickson, 1998; Lazarus, 1991). Joy is typically experienced when a goal is achieved and is closely associated with feelings of connection, celebration, and the satisfaction of having accomplished something meaningful. Joy often arises in the context of shared experiences with others, such as the celebration of a collective achievement or a personal milestone. It is a reflective emotion, focused on savouring and appreciating the moment of success and the bonds with those involved.

Enthusiasm, on the other hand, is distinguished by its proactive nature and its orientation toward future goals. Unlike joy, which is rooted in the satisfaction of a completed goal, enthusiasm is driven by the anticipation of future success. It energises individuals to take immediate action, propelling them toward the attainment of goals that are within reach but not yet realised. This forward-looking aspect of enthusiasm evokes a sense of urgency and readiness to engage in activities that will bring them closer to their desired outcomes. By contrasting enthusiasm with joy, we aim to highlight the unique characteristics of enthusiasm as a motivational force.

We contrasted enthusiasm with hope because some scholars have considered enthusiasm to be more or less similar to hope (Marcus & MacKuen, 1993; Pierce, 2021). Pierce (2021) even characterises enthusiasm as belonging to the same category as hope and joy. Hope and joy are both goal-oriented, but we expect them to arise under different circumstances. Hope can emerge in challenging situations with uncertain outcomes, while we expect enthusiasm to occur when goals appear achievable, prompting direct actions.

Understanding the nuanced differences between these emotions can provide deeper insights into the unique role enthusiasm has in motivational processes.

This distinction is essential in understanding how these emotions function differently in motivational processes and how they can be harnessed in various contexts, such as education, work, and personal development.

Although research on enthusiasm is scarce, existing literature and research provide some guidance on the potential characteristics of enthusiasm, its corresponding appraisals and response types. It also provides some direction on potential distinctions between enthusiasm, joy, and hope. According to Griskevicius et al. (2010), enthusiasm is experienced when an important goal is in sight, and therefore goal conduciveness is an important appraisal of enthusiasm. The intense feeling of energy and focus causes the person in question to act and seize the opportunity. Griskevicius refers to this emotion as "anticipatory enthusiasm", emphasizing its focus on future events. In our paper, we adopt a broader definition of "enthusiasm", which encompasses not only future-oriented excitement but also the general affective state of heightened interest and engagement, regardless of temporal orientation.

Empirical evidence supports the notion that enthusiasm is inherently goal oriented. In a previous study (Vogelaar et al., 2021), we used prototype analysis as a method to identify the features that are related to enthusiasm. We found that enthusiasm is a positive emotion, high in energy, associated with goal orientation, and often involves interpersonal contact. Considering all this, we would anticipate enthusiasm to manifest itself through appraisal dimensions such as goal orientation, coping potential, sense of urgency, and connectedness. We would also expect enthusiasm to evoke certain response types, such as eagerness and focus on attaining a goal that is in sight. This would imply a high level of action readiness.

Joy is often regarded as a broad-based emotion. Certain scholars even consider joy the fundamental affect from which all other positive emotions emerge (e.g. Ellsworth & Smith, 1988a; Fredrickson, 1998; Lazarus, 1991). If this conceptualisation of joy as an overarching emotion holds true, then enthusiasm might be characterised as a subsidiary category within the construct of joy. However, not all scholars agree with this view. According to Watkins (2020), joy should be considered a distinct emotion experienced when one has a union or connection with someone or something important to them. There is also empirical research that provides insights into the appraisals and response types of joy. In their

research on peak experiences, Hoffman et al. (2012) found that joy is most commonly in the presence of loved ones, indicating that joy is often experienced in social situations. In a simultaneous and evolutionary concept analysis of joy, Cottrell (2016) found that the attributes of joy describe a sudden, brief feeling associated with connection, awareness, and freedom. In three qualitative studies, Robbins (2006) found that connectedness was a recurring theme in both childhood and adult experiences of joy. In view of all this, joyous events might be associated with a strong appraisal of connectedness. Tong (2015), in his research comparing the appraisals of 13 positive emotions, found joy scoring relatively high on relevance and goal achievement. Roseman et al. (2020) found that joy is an emotion characterised by certain response types such as jumping up and down, celebrating, and readiness for behaviour that would sustain reward. We would therefore expect a high presence of response types aimed at connecting, savouring an achievement, and holding onto the situation. Although enthusiasm and joy are both experienced in favourable situations, enthusiasm seems more goal-orientated and focused. Enthusiasm seems to be more often present when anticipating a goal, whereas joy is felt when a goal has been reached.

Hope is the second emotion which we contrasted with enthusiasm. Compared to joy and enthusiasm, which are predominantly elicited in pleasant situations, hope tends to emerge in adverse circumstances (Lazarus, 1991). This aligns with Tong's (2015) findings that appraisals associated with hope involve the perception of problems. Therefore, when contrasting hope with enthusiasm, it can be anticipated that hope would be appraised lower in terms of pleasantness. However, both enthusiasm and hope share an aspect of goal orientation. They are evoked in anticipation of a desirable outcome but differ in their perceived goal accessibility. Enthusiasm is typically experienced when the goal appears within reach, whereas hope is evoked when the goal seems unattainable or uncertain. Therefore, when considering response types, we would expect hope to be lower on action readiness. Both enthusiasm and hope are experienced when anticipating a future event, but they are felt in different situations and, as a result, are likely to elicit distinct responses. Hope is typically oriented towards a more uncertain and distant future, while enthusiasm incites immediate action. Luo et al. (2022) found empirical evidence for this future-oriented aspect of hope through prototype

analysis, showing that hope combines the belief in a feasible future outcome with the desire for it, even when uncertain. This view aligns with Lazarus's proposition that hope keeps one focused on an unattained goal, even when a positive outcome is unlikely. Given this understanding, it is justified to assert that hope also exhibits goal-oriented inclinations. Empirical evidence supporting this perspective has been provided by Roseman et al. (2020). In examining the response types elicited by hope, he showed that hope is experienced when people focus optimistically on some desired state and anticipate its potential occurrence while concurrently formulating plans. In contrast, enthusiasm is less about making plans but prepares us to act immediately and seize the opportunity. Therefore, compared to hope, we would anticipate enthusiasm to demonstrate response types reflecting feelings, thoughts, and actions congruent with this immediacy.

We conducted two studies aimed at delineating the core characteristics of enthusiasm. Study 1 was dedicated to exploring the cognitive appraisals associated with enthusiasm. In Study 2, we focused on the various response types enthusiasm elicits.

Study 1

In Study 1, we examine the appraisal pattern of enthusiasm. First, we determine which appraisals are most and least characteristic of enthusiasm. Second, we explore how the appraisal pattern of enthusiasm is different from those of joy and hope. We use multiple items to assess nine distinct appraisal dimensions: (1) *Novelty*: The extent to which a situation is appraised as unexpected and new (2 items), (2) *Intensity:* The extent to which a situation is appraised as intense (1 item), (3) *Pleasantness*: The extent to which a situation is appraised as pleasant (2 items), (4) *Goal orientation*: The extent to which a situation is appraised as being important to short-term needs, and long-term goals or desires (10 items), (5) *Coping potential*: The extent to which a situation is appraised as being caused by me or someone else (7 items), (6) *Urgency*: The extent to which a situation is appraised as urgent (2 items), (7) *Certainty*: The extent to which a situation is appraised as uncertain (3 items), (8) *Legitimacy*: The extent to which a situation is appraised as being morally right (1 item), (9) *Connectedness*: The extent to which a situation is appraised as interconnected (2 items). Most appraisals were adapted from previous research. References to earlier studies are provided in

Table 2. Some appraisal items (marked with a superscript 10 and 7 in Table 2) are not drawn from prior appraisal research but were developed by the authors to better capture the element of connectedness, which are regarded as particularly important for positive emotions such as joy (e.g. Watkins, 2020) and enthusiasm (Vogelaar et al., 2021).

Method

Participants and procedure

Participants were 300 British members of the online research panel Prolific[1] (M_{age} = 26.52 years, SD = 8.28, 54.7% female, 44.7% male, 0.7% other). Based on the guidelines for sample size (Simmons, Nelson, & Simonsohn, 2011) we set the sample size to a minimal of 225, with 75 participants per condition. The sample size guarantees a power of .80 with a minimum detectable eta-square of .042, which can be considered a small effect size. Only participants aged 18 years and above were allowed to participate. Participation was voluntary and anonymous. Participants received £1.25 for completing the study. Participants were randomly assigned via Qualtrics to the conditions; the enthusiasm condition (n = 94), hope condition (n = 114), or joy condition (n = 92). We assumed that the skewness in the response could be attributed to chance. To test this assumption, we conducted a chi-square goodness-of-fit test. Given that the participants were randomly assigned to three conditions (enthusiasm, hope, and joy), we expected an even distribution of 100 participants per condition. The observed distribution was 94, 114, and 92 participants per condition, respectively. The chi-square test result was χ^2(2, N = 300) = 2.960, p = .228, indicating that the observed distribution does not significantly differ from the expected distribution. Before beginning, participants gave their informed consent.

Following the procedure used by Smith and Ellsworth (1985), we used an autobiographical task in which we asked participants to recall and describe an event in which, depending upon the condition, they had felt enthusiasm, joy, or hope. This procedure is considered a standard procedure for appraisal research (see for examples, Roseman et al., 1994; Tong, 2015; Van Dijk & Zeelenberg, 2002; Yih et al., 2020; Zeelenberg et al., 1998). It is important to state that it is not essential for appraisal studies using this method that participants (re-)experience the emotion in real-time. Rather, recalling a situation

where they felt the emotion allows them to describe the context and their appraisals in retrospect, which is key for determining appraisal patterns. An additional advantage of using a similar method as other research on emotion appraisals is that it may enable the comparison across studies (and emotions).

This is the exact way in which the question is posed:

> Please recall a situation where you felt enthusiasm (joy, hope) and describe it as if you are explaining it to someone who had never felt enthusiasm (joy, hope), so that this person would know what it feels like. Please recall as many details of the situation as possible and try to hold this memory in your mind. What exactly happened in this situation to make you feel enthusiasm (joy, hope)? What did it feel like to be feeling enthusiasm (joy, hope)?

Before presenting the appraisal items, we asked participants to indicate the extent to which they felt enthusiasm, joy, or hope in the described situation (1 = not at all, 10 = very much). Then they were presented with a list of 41 appraisal items that covered eight appraisal dimensions. Cronbach's Alpha for the appraisal items was high (a = .83), indicating good internal consistency.

The items were selected from preceding appraisal research (Tong, 2015; Van Dijk & Zeelenberg, 2002), and our earlier research on enthusiasm (Vogelaar et al., 2021).

Depending upon the condition, participants were asked for each appraisal item to what extent it caused their enthusiasm/joy/hope (1 = not at all, 10 = very much). Then we asked several general questions about the situation (e.g. how long did the event last), and finally asked participants for their gender and age. After the study, participants were informed about the research's objectives.

Results and discussion

Data were analysed in four steps. First, we performed a check of our experimental manipulation. Then we examined the means of the appraisals in the enthusiasm condition. This was followed by multivariate and univariate analyses to test the differences in appraisals between enthusiasm, joy, and hope. Last, we conducted a multinominal regression analysis to determine the contribution of appraisals in discriminating between enthusiasm, joy, and hope.

Manipulation check

For each dependent measure, we initially conducted a separate one-way ANOVA with emotion condition as

the independent variable. Because the assumptions of normality and homogeneity of variances were violated, as indicated by the Shapiro-Wilk test (all p < .001) and Levene's test (p < .001 for joy and enthusiasm, and p-values ranging from .014 to .044 for hope), we conducted a separate Kruskal-Wallis test with emotion condition as the independent variable. These analyses tested, separately for experienced enthusiasm, experienced hope, and experienced joy, whether that emotion was experienced as most intense in the condition in which that emotion was recalled. Results showed a statistical effect of emotion condition for all experienced emotions: for experienced enthusiasm ($H(2) = 66.616$, $p < .001$), for experienced joy ($H(2) = 69.467$, $p < .001$), and for experienced hope ($H(2) = 13,271$, $p = .001$).

As illustrated in Table 1, post hoc pairwise comparisons using the Mann-Whitney U test revealed that in the enthusiasm condition, enthusiasm was experienced more intensely than joy and hope. In the joy condition, joy was experienced more intensely than hope, but not more intensively than joy. In the hope condition, hope was experienced more intensely than joy and enthusiasm. The data suggest that the recalled emotion was generally experienced with the highest intensity, apart from the joy condition where the difference in intensity between joy and enthusiasm was not significant.

Profile of enthusiasm based on appraisals

To describe the appraisal pattern associated with enthusiasm, we examined the means of the appraisal items in the enthusiasm condition. We based our profile of enthusiasm on the items that had a mean score of higher than seven or lower than four (see Table 2, for means on all appraisal items). This selection provided insight into which appraisals are most and least characteristic of enthusiasm. Including appraisal items with the lowest scores highlights the

Table 1. Intensity of experienced enthusiasm, joy, and hope in each of the three conditions.

	Experienced enthusiasm		Experienced joy		Experienced hope	
Condition	M	SD	M	SD	M	SD
Enthusiasm	9.28[a]	.90	8.58[b]	1.65	6.87[c]	2.59
Joy	8.91[a]	1.36	9.37[a]	.91	6.78[b]	2.78
Hope	8.19[a]	1.67	8.17[b]	1.76	8.89[c]	1.34

Note. Means within a row that do not share a superscript letter (a, b, c) differ significantly (Mann-Whitney U tests with Bonferroni correction, $p < .0056$). For example, means with different letters (e.g. a versus b) are significantly different from each other.

characteristics that are notably absent or weakly associated with enthusiasm, further refining our understanding of its unique profile.

This showed that participants appraised their enthusiasm as an intense emotional state that was experienced as pleasant. It was triggered by wanting to obtain something pleasurable and the expectations that were held in the situation. Furthermore, participants appraised the situation as significant in relation to their long-term needs, goals, or desires. Concurrently, the enthusiasm they felt served to maintain their focus on goal attainment. When experiencing enthusiasm participants felt connected to something that was important to them. Moreover, they felt the urge to openly share their enthusiasm and perceived the situation as a safe environment to show their feelings. They also appraised the social environment as safe to show their enthusiasm and saw their experience of enthusiasm in accordance with other people's social norms.

The examination also indicated that enthusiasm was not appraised as unpleasant or triggered by wanting to avoid or get rid of something unpleasant. When experiencing enthusiasm, participants did not strongly perceive the situation is being controlled by others or by forces beyond anyone's control. Additionally, they did not experience a heightened need to take action to cope with the consequences of the situation nor did they feel a high degree of uncertainty about the future. The experience of enthusiasm was not associated with other people being online present or with a tendency to hide their feelings in the situation.

These findings suggest that the experience of enthusiasm is characterised as an intense, pleasant emotional state, that exhibits a strong interaction with the social environment. Individuals experiencing enthusiasm feel the urge to openly share their feelings if they consider it safe and socially appropriate. Enthusiasm manifests as a goal-orientated emotion and seems to play a key role in maintaining focus towards these goals. Additionally, it was not tied to a strong sense of external control over the situation, or significant uncertainty about the future.

Multivariate and univariate differences between appraisals

To study the differences in the appraisals, we examined multivariate and univariate effects. We report both the multivariate and the univariate at the strict significance level of $p < .01$ level, to correct for

Table 2. Differences between emotions on appraisals.

	enthusiasm (a)		joy (b)		hope (c)		
	M	SD	M	SD	M	SD	ANOVA
Novelty							
the situation being unexpected[1]	5.28	3.19	5.66	3.20	5.60	3.04	0.41
the situation being new[2]	6.96	2.78	6.04	3.31	5.97	3.04	3.17*
Intensity							
the situation being intense[3]	7.07	2.51	7.35	2.81	7.44	2.59	0.52
Pleasantness							
the situation being pleasant[3]	8.55[c]	1.62	8.98[c]	1.47	5.51[ab]	3.42	63.75**
the situation being unpleasant[3]	1.72[c]	1.45	1.74[c]	1.68	4.62[ab]	3.47	48.51**
Goal orientation							
wanting to obtain something pleasurable[4]	7.51[b]	2.24	6.26[a]	2.96	6.72	3.04	4.87**
wanting to keep something pleasurable[4]	6.35	3.06	5.91	3.24	5.54	3.10	1.75
wanting to avoid something unpleasant[4]	3.69[c]	2.98	3.22[c]	2.97	7.14[ab]	2.81	57.09**
wanting to get rid of something unpleasant[4]	3.19[c]	2.89	3.15[c]	2.84	6.15[ab]	3.32	33.75**
the expectations I had about the situation [5]	7.71[b]	2.51	6.13[ac]	2.95	7.54[b]	2.41	10.43**
the situation being important to my short-term needs, goals or desires[6]	6.98[c]	2.57	6.10	3.17	5.78[a]	2.92	4.60*
the situation being important to my long-term needs, goals or desires[6]	7.67	2.62	6.74	3.27	7.84	2.69	4.18*
problems that needed to be solved before I could get what I wanted[3]	4.35	3.22	3.46[c]	2.91	5.23[b]	3.03	8.58**
the anticipation of achieving an important goal that I aspired to achieve[6]	6.93[b]	2.85	4.52[ac]	3.27	6.26[b]	3.28	14.54**
having achieved an important goal that I aspired to achieve[6]	6.60[bc]	3.13	5.25[a]	3.59	5.01[a]	3.31	6.45**
… did your enthusiasm (joy, hope) help you to stay focused on attaining your goals?[7]	7.64	2.40	7.02	2.40	6.89	2.61	2.59
Coping potential							
the situation being caused by me[6]	5.56[c]	2.91	5.59[c]	3.15	4.12[ab]	3.18	7.82**
the situation being caused by someone else[6]	6.24	3.04	6.14	3.36	5.54	3.44	1.40
the situation being caused by the circumstances[6]	6.28	3.02	6.53	3.06	7.05	2.83	1.87
the situation being mainly due to chance[8]	4.52	3.13	4.40	3.04	5.20	3.09	2.06
feeling in control of what was happening[6]	6.12[c]	2.92	4.92	2.92	3.86[a]	2.88	15.57**
feeling that someone else was in control of what was happening[6]	3.61[c]	2.77	3.44[c]	2.77	4.93[ab]	3.28	7.93**
… forces beyond anyone's control were controlling what was happening[6]	3.27[c]	2.62	4.25	3.19	5.09[a]	3.22	9.29**
Urgency							
feeling I needed to exert myself to deal with the situation[6]	4.72	2.99	4.08	3.18	5.03	2.79	2.65
feeling that action was required to cope with the consequences of the situation[8]	3.34[c]	2.74	2.92[c]	2.40	4.85[ab]	3.30	13.09**
Certainty							
being uncertain what was going to happen[9]	4.69[c]	2.95	4.86[c]	3.31	6.68[ab]	2.69	14.66**
being able to predict what was going to happen next[6]	4.87	2.71	3.85	2.75	4.14	2.78	3.47*
feeling uncertain about the future[9]	3.91[c]	2.73	3.26[c]	2.85	6.11[ab]	2.81	29.88**
Legitimacy							
the situation being morally right[4]	5.07	3.43	5.55	3.43	5.05	3.49	0.64
Connectedness							
feeling connected to someone important to me[10]	5.70[b]	3.47	7.43[ac]	3.24	4.98[b]	3.59	13.24**
feeling connected to something important to me[10]	7.45[c]	2.74	7.61[c]	2.66	6.00[ab]	3.23	9.78**
other people being physically present[7]	5.68	3.67	6.68	3.59	5.48	3.47	3.18*
other people being online present[7]	2.96	2.82	2.64	2.57	3.43	2.97	2.07
my assessment on how others perceived the situation[7]	4.84	3.20	4.05	3.05	4.54	3.03	1.53
the perception that other people were enthusiastic (joyful, hopeful)[7]	6.05	3.14	6.43	3.33	5.75	3.31	1.14
the possibility to affect others with my enthusiasm (joy, hope)[7]	6.39	3.19	6.93[c]	2.96	5.43[b]	3.25	6.11**
Did your feel the urge to share your feelings with someone during or after the situation?[7]	8.48[c]	1.98	7.93	2.42	7.14[a]	2.78	7.94**
Did you consider the situation a safe environment to show you feelings?[7]	7.61[c]	2.28	8.40[c]	2.11	6.18[ab]	2.86	21.52**
To what extent did you try to hide your feelings in the situation?[7]	2.98[c]	2.36	2.61[c]	2.45	4.20[ab]	2.93	10.69**
Would it generally be appropriate to show (joy, hope), in your social environment?[7]	8.06	1.89	7.91	1.93	7.28	2.22	4.41*
Would people consider what you described to be in accordance with social norms … ?[7]	8.11	1.81	7.96	2.39	7.77	2.17	0.64

* Significant at the .05 level (2-tailed).
** Significant at the .01 level (2-tailed).
[a] Mean is significantly different to enthusiasm at the .01 level (2-tailed).
[b] Mean is significantly different to joy at the .01 level (2-tailed).
[c] Mean is significantly different to ehope at the .01 level (2-tailed).

[1] Roseman et al., 2020
[2] Ellsworth & Scherer, 2003
[3] Smith & Ellsworth, 1985
[4] Van Dijk & Zeelenberg, 2002
[5] Griskevicius et al., 2010
[6] Tong, 2015
[7] Vogelaar et al., 2021
[8] Scherer, 1993
[9] Lazarus, 1991
[10] Watkins, 2020

multiple testing. To assess multicollinearity, Tolerance and Variance Inflation Factor (VIF) values were computed. Generally, a Tolerance value below 0.10 and a VIF above 10 indicate potential multicollinearity issues (Kutner et al., 2005). In the present analysis, the VIF values ranged from 1.337 to 3.606, with corresponding Tolerance values ranging from 0.277 to 0.748. These values indicate that multicollinearity is not a major concern.

In the present study, multinomial regression analyses were employed to examine the discriminant power of the three emotions, a discussion of which follows subsequently. These analyses also provided multivariate effects related to the various appraisals. Obtaining a significant multivariate effect for an appraisal suggests that the specific appraisal has a differential relation across emotions, accounting for the shared variance among the appraisal items. This indicates that the appraisal has a unique relation with the investigated emotions, even when corrected for the shared similarities among the different appraisal items. We found three appraisals to differentiate on this level between enthusiasm and the other emotions (see below).

Furthermore, the univariate differences among emotions for individual appraisals were assessed. This approach permits us to examine each appraisal in isolation, thus providing insight into its unique impact on differentiating emotions without considering the potential interplay among variables. We used one-way ANOVA analyses with post hoc comparisons (Tukey's HSD) to determine differences between the three emotions for the different appraisals. We found that the emotions differed for 22 of the 41 appraisal items, as detailed in Table 2. We found statistically significant differences ($p < .01$) for six of the nine appraisal dimensions. On the novelty, intensity, and legitimacy dimensions, we did not find differences.

Differences and similarities in appraisals between enthusiasm and joy

There were two appraisals in the multinomial regression that were significantly different between enthusiasm and joy at a multivariate level. This means that these appraisals were the most relevant to differentiate between the emotions when all variables were included. The joy condition was associated with higher perceptions that circumstances or forces beyond one's control were determining the situation

(Exp. $B = 1.37$, $p < .001$), and that it was a safer environment to express feelings (Exp. $B = 1.40$, $p = .009$).

The univariate analyses revealed that enthusiasm differed from joy on 5 of the 41 appraisals, primarily on the goal orientation dimension. Enthusiasm was more often associated with expectations and a desire to attain pleasurable outcomes. The same was the case for the anticipation of achieving or having achieved an important goal. For the connectedness dimension, the results were more nuanced. Although both emotions scored high on connectedness to something important, joy scored significantly higher on feeling connected to someone important.

Differences and similarities in appraisals between enthusiasm and hope

The multivariate analysis indicated that enthusiasm and hope differed only on the appraisal dimension of pleasantness. Specifically, compared to enthusiasm, hope was more frequently associated with a desire to avoid something unpleasant.

The univariate analyses further distinguished enthusiasm from hope on 17 of the 41 appraisal items, which were distributed across all dimensions except novelty, intensity, and legitimacy. In accordance with the multivariate findings, the conditions demonstrated significant differences concerning pleasantness; enthusiasm conditions were more frequently deemed pleasant, while hope conditions were often perceived as unpleasant. Goal orientation was important for both emotions, although it manifested differently. Enthusiasm was more often felt in conditions that were important for short-term needs or where an important goal was achieved. There were no differences regarding expectations or the importance of long-term needs. Although enthusiasm conditions scored higher on short-term needs, hope conditions were assessed higher on urgency, indicating the need for action to handle the condition's consequences. In terms of coping potential, enthusiasm conditions often made respondents feel more in control, while hope conditions led them to feel that someone else or external circumstances were in control. Contrary to our prediction, hope scored higher on urgency. In hope conditions, participants more often indicated that their emotional response was caused by the feeling that action was required to cope with the consequences of the situation. Moreover, hope conditions engendered more uncertainty about the future compared to enthusiasm conditions. Lastly, for the connectedness dimension, enthusiasm

and hope only differed on one appraisal item. Participants more frequently felt a connection to something important in the enthusiasm conditions.

Discriminant power of appraisals

To determine the discriminant power of the emotions, we combined the data of the three conditions and submitted scores on all appraisals to multinomial regression analysis.[2] Multinomial regression is a statistical method used to predict the likelihood of different potential outcomes of a categorical dependent variable, based on a set of independent variables. This technique enabled us to assess the odds of experiencing a specific emotion – like joy, hope, or enthusiasm – based on how one appraises a situation. Essentially, it tests whether different appraisal patterns can accurately predict whether someone would feel joy, hope, or enthusiasm in each situation.

In our analyses, the dependent variable was the specific emotion experienced, while the set of independent variables consisted of the appraisal items. Our findings confirmed that it was indeed possible to predict the specific emotions based on the distinct patterns of appraisals.[3] As shown in Table 3, the results demonstrated a discriminant power of 75.3%,[4] with enthusiasm correctly classified in 66.0% of the cases, joy in 74.7%, and hope in 83.3%. The "observed" category in Table 3 tells us what the actual emotion was, and the "predicted" category tells us what emotion the model thought was going to occur based on the appraisal patterns. By comparing the "observed" and "predicted" categories, we can assess the accuracy of the model's predictions. All emotions were classified above the overall chance classification rate (33.3%). In addition, we found a significant model fit $X^2(82, N = 300) = 320.1$, $p < .001$, and a high Nagelkerke R^2 of .740. Therefore, the high discriminant power between enthusiasm, joy, and hope suggests that these emotions are associated with distinct appraisal patterns.

Table 3. Classification rate by appraisals of enthusiasm, joy, and hope.

	Predicted			
Observed	Enthusiasm	Joy	Hope	Percent Correct
Enthusiasm	62	19	13	66.0%
Joy	17	68	6	74.7%
Hope	13	6	95	83.3%
Overall Percentage	30.8%	31.1%	38.1%	75.3%

Study 2

In Study 2, we investigate the response pattern of enthusiasm. First, we identify which response types best match and least match enthusiasm. Then, we look at how enthusiasm's response pattern is different from joy and hope. We included multiple items to measure each of the five commonly used response types: feelings, thoughts, action tendencies, actions, and emotivational goals (e.g. Frijda, 1987; Roseman, 1984). Next, we will describe these response types in more detail:

(1) *Feelings*: The extent to which someone feels positive or eager (18 items), (2) *Thoughts*: The extent to which someone thinks about opportunities or about the future (15 items), (3) *Action tendencies*: The extent to which someone feels the tendency to take action or to capture the moment (9 items), (4) *Actions*: The extent to which someone takes action immediately or prepares for something (10 items), (5) *Emotivational goals*: The extent to which someone wants to achieve something or wants to hold on to the situation (18 items). Some of the response types were adapted from prior research (Roseman et al., 2020), while others were newly developed, drawing on insights from previous studies and established theoretical frameworks. These additional response items were included to create a comprehensive list, aimed at gaining a deeper understanding of responses to enthusiasm. References to the relevant studies and theories are provided in Table 5.

Method

Participants and procedure

Participants were 298 British members of the Prolific online research panel. ($M_{age} = 40.74$ years, $SD = 13.64$, 50.3% female, 49.7% male). Following the guidelines for sample size provided by Simmons, Nelson, and Simonsohn (2011), we determined a minimal sample size of 225, allocating 75 participants to each condition. This sample size ensures a statistical power of .80, with a minimum detectable eta-squared of .042, which is considered a small effect size. Only participants aged 18 years and above were allowed to participate. Participation was voluntary and anonymous. Participants received £1.25 for completing the study. Participants were randomly assigned via Qualtrics to the enthusiasm condition ($n = 113$), hope condition ($n = 90$), or joy condition

($n = 95$). Participants in the different conditions followed the same procedure. Prior to participation, all respondents provided informed consent.

Following the same procedure as in Study 1, we asked the participants to recall and describe an event where they felt enthusiasm (or joy or hope) and describe it as if they were explaining it to someone who had never felt this emotion before so that this person would know what it feels like. Before presenting the response types, we asked the participants to rate the extent to which they felt enthusiasm, joy, or hope in the described situation ($1 = not\ at\ all$, $10 = very\ much$). Next, they were asked to what extent the presented response types were present in the described situation. The response type items were based on previous research (e.g. Cutcliffe & Barker, 2002; Lazarus, 1991; Luo et al., 2022; Roseman et al., 1994), theories about positive emotions (Fredrickson, 2001; Watkins, 2020), and our previous research on enthusiasm (Vogelaar et al., 2021). In total, 70 response types were presented ($a = .96$). Finally, we asked some background questions about their gender and age. Upon completing the study, participants were briefed on the objectives of the research.

Results and discussion

Following a similar approach as in Study 1, we used a four-step analysis. Firstly, an evaluation of the experimental manipulation was conducted. Subsequently, the means of the response types items within the enthusiasm condition were examined. This was followed by multivariate and univariate analyses to assess the variances in appraisals between enthusiasm, joy, and hope. Lastly, a multinomial regression analysis was employed to ascertain the extent to which appraisals contributed to the discrimination between enthusiasm, joy, and hope.

Manipulation check
Because the assumptions of normality and homogeneity of variances were also violated in Study 2 (Shapiro-Wilk tests: all $p < .001$; Levene's test: all $p < .001$), we followed the same analytical approach as in Study 1 and conducted a separate Kruskal-Wallis test with emotion condition as the independent variable. Results indicated a statistically significant effect for all experienced emotions: For experienced enthusiasm ($H(2) = 41.407$, $p < .001$), for experienced joy (H

Table 4. Intensity of experienced enthusiasm, joy, and hope in each of the three conditions.

Condition	Experienced enthusiasm		Experienced joy		Experienced hope	
	M	SD	M	SD	M	SD
Enthusiasm	9.15[a]	.94	9.11[a]	1.14	7.42[b]	2.49
Joy	8.65[a]	1.48	9.52[b]	.97	7.06[c]	2.74
Hope	8.09[a]	1.85	8.28[b]	1.84	9.02[c]	1.13

Note. Means within a row that do not share a superscript letter (a, b, c) differ significantly (Mann-Whitney U tests with Bonferroni correction, $p < .0056$).

$(2) = 66.180$, $p < .001$), and for experienced hope ($H(2) = 13.554$, $p = .001$).

As shown in Table 4, a post hoc pairwise comparisons using the Mann–Whitney U test revealed that in the enthusiasm condition, respondents experienced enthusiasm not significantly more intensely than joy, but enthusiasm was experienced more intensely than hope. In the joy condition, joy was experienced more intensely than enthusiasm and hope. Finally, in the hope condition, hope was experienced, more intensely than joy, and enthusiasm. This suggests that the recalled emotion was felt most strongly in the respective condition, except for enthusiasm and joy in the enthusiasm condition.

Profile of enthusiasm based on response types
We created a profile of enthusiasm based on the highest and lowest-scoring response types. We selected response type items that exceeded a score of eight and fell beneath a score of four, see Table 5. As in Study 1, the aim was to create a profile of enthusiasm based on the highest and lowest-scoring response types, rather than to obtain absolute scores. This time we used a more stringent selection criterion than in Study 1. If we had used the same criterion as in Study 1, which was 7, it would have yielded an excessive number of items (34) due to the generally higher scores observed for response-type items. This would not have been very selective.

Notably, enthusiasm exhibited distinct prominence related to certain feelings. When participants experienced enthusiasm, they felt fulfilled and present in the moment. Additionally, they felt open to the experience, energised, eager, inspired, and positive. Furthermore, participants experiencing enthusiasm often smiled and thought about possible good outcomes. They also ranked high on wanting to obtain something positive. Conversely, participants experiencing enthusiasm typically did not report

Table 5. Differences between emotions on response types.

Feelings	Enthusiasm (a)		Joy (b)		Hope (c)		ANOVA
	M	SD	M	SD	M	SD	
Feel strong?[1]	7.35	1.95	7.60^{c}	2.18	6.57^{b}	2.17	6.17**
Feel present in the moment?[1]	8.35^{c}	1.65	9.12^{c}	1.60	7.48^{ab}	2.32	17.84**
Feel successful?[1]	7.79^{c}	2.07	8.09^{c}	2.16	6.36^{ab}	2.61	15.51**
Feel anticipation about what was coming?[1]	7.76	2.34	7.24	2.70	7.80	2.32	1.55
Feel fulfilled?[1]	8.34^{c}	1.65	9.08^{c}	1.29	6.61^{ab}	2.46	43.84**
Feel relaxed?[1]	6.25^{c}	2.23	7.23^{c}	2.51	5.07^{ab}	2.71	17.76**
Feel a sense of lightness in your movements?[2]	6.65^{b}	2.64	7.87^{ab}	2.53	5.90^{b}	2.93	12.71**
Feel connected?[3]	7.78^{bc}	1.95	8.93^{ac}	1.60	6.83^{ab}	2.46	24.90**
Feel as if everything was more vivid?[2]	7.29	2.32	8.08^{c}	2.05	6.34^{b}	2.71	12.52**
Feel open to the experience?[4]	8.61^{c}	1.54	8.98^{c}	1.52	7.60^{ab}	2.21	15.18**
Feel that action was required?[5]	6.98^{b}	2.51	4.78^{ac}	2.92	6.76^{b}	2.67	19.89**
Feel uncertain?[6]	3.30^{c}	2.36	2.94^{c}	2.34	5.79^{ab}	2.90	35.10**
Feel challenged in a positive way?[1]	7.63^{b}	2.20	6.45^{a}	3.02	6.76	2.61	5.77**
Feel impatient?[1]	4.99^{b}	2.89	3.26^{ac}	2.73	5.93^{b}	3.02	20.64**
Feel energised?[1]	8.78^{c}	1.19	8.82^{c}	1.54	7.00^{ab}	2.27	35.62**
Feel eager?[1]	8.62^{bc}	1.40	7.73^{a}	2.04	7.41^{a}	2.40	10.69**
Feel inspired?[1]	8.26^{c}	1.73	8.05	2.21	7.32^{a}	2.37	5.30**
Feel positive?[1]	9.03^{c}	1.09	9.43^{c}	1.29	8.04^{ab}	2.09	20.40**
Thoughts							
Think that you could do anything you wanted to?[2]	6.46	2.55	6.79	2.61	5.98	2.74	2.22
Think that you got something that you wanted?[2]	7.87	2.08	8.17	2.47	7.14	2.61	4.53*
Think about nothing?[1]	3.12	2.40	3.65	2.71	3.02	2.27	1.79
Think about whatever came to mind?[1]	6.07	2.36	5.54	2.69	5.60	2.41	1.45
Think about the present?[1]	7.55	1.98	8.36^{c}	2.12	7.21^{b}	2.31	7.20**
Think about possible good outcomes?[1]	8.35	1.68	7.76	2.45	8.50	1.76	3.70*
Think about possible bad outcomes?[7]	3.55^{c}	2.34	3.31^{c}	2.79	6.28^{ab}	2.90	35.98**
Think about long-term goals?[6]	6.67^{c}	2.92	6.17^{c}	3.26	7.91^{ab}	2.40	8.88**
Think about the future?[2]	7.59^{c}	2.21	7.34^{c}	3.06	8.84^{ab}	1.54	10.92**
Think about the chances of attaining a goal?[7]	7.12^{b}	2.70	5.96^{ac}	3.01	7.67^{b}	2.62	9.23**
Think about opportunities?[1]	7.09^{b}	2.60	5.96^{ac}	2.86	7.40^{b}	2.52	7.71**
Think about an upcoming event?[1]	6.35	3.03	5.35	3.26	6.47	2.85	3.88*
Think about a reward?[8]	6.13^{b}	3.21	4.64^{ac}	3.20	6.14^{b}	3.01	7.33**
Think an important goal was within reach?[1]	6.97	2.74	6.18^{c}	3.20	7.67^{b}	2.48	6.45**
Think about the next steps?[1]	7.06	2.60	6.38^{c}	2.96	7.88^{b}	2.29	5.50**
Action tendencies							
Feel the tendency to jump up and down?[2]	4.80^{b}	3.13	6.43^{ac}	3.20	4.42^{b}	3.04	11.08**
Feel the tendency to pray?[9]	2.70	2.75	2.57	2.59	3.66	3.21	4.06*
Feel the tendency to take it all in?[2]	7.24^{b}	2.40	8.42^{ac}	1.96	6.64^{b}	2.52	14.37**
Feel the tendency to plan for the future?[2]	6.32	2.71	6.17	3.32	7.23	2.57	3.73*
Feel the tendency to take action?[5]	7.29^{b}	2.50	5.57^{a}	2.98	6.52	2.55	10.71**
Feel the tendency to take a risk?[1]	5.40^{b}	2.87	3.91^{a}	2.73	4.77	2.92	7.14**
Feel the tendency to capture the moment?[1]	6.98^{bc}	2.66	8.19^{ac}	2.27	5.86^{ab}	3.07	17.58**
Feel the tendency to talk about the experience?[1]	7.39	2.46	8.14^{c}	2.48	7.01^{b}	2.52	4.94**
Feel the tendency to involve others?[1]	6.56	2.82	7.07	2.89	6.40	2.64	1.51
Actions							
Celebrate?[2]	7.21^{b}	2.81	8.48^{ac}	2.07	6.30^{b}	3.06	15.54**
Smile?[2]	8.50^{bc}	1.94	9.52^{ac}	1.10	7.56^{ab}	2.45	24.60**
Take time to relax?[1]	5.41	2.60	6.34	2.77	5.57	2.53	3.53*
Act to attain your long-term goals?[5]	6.62^{b}	2.83	5.17^{ac}	3.10	6.81^{b}	2.68	9.34**
Keep going, despite setbacks?[10]	7.11	2.48	6.25	3.22	7.30	2.27	4.11*
Move towards someone or something?[3]	6.73	2.66	7.24	2.90	6.60	2.89	1.40
Talk about opportunities?[1]	6.31	2.88	5.98	3.20	6.59	2.74	0.99
Take action immediately?[8]	6.89^{bc}	2.53	5.14^{a}	3.02	5.47^{a}	2.68	12.26**
Prepare for something?[1]	6.85^{b}	2.72	5.61^{a}	3.27	6.84	2.72	5.86**
Share your feelings?[1]	7.06^{b}	2.48	8.16^{ac}	2.06	6.92^{b}	2.56	7.74**
Emotivational goals							
Want to make someone proud?[1]	6.62	3.21	6.85	3.25	6.61	3.13	0.18
Want to attain a specific goal?[1]	7.67^{b}	2.48	5.91^{ac}	3.28	7.83^{b}	2.55	14.26**
Want to experience something new?[1]	7.20	2.73	6.71	3.06	6.27	2.89	2.67
Want to learn something?[1]	6.71	2.87	5.81	3.20	6.13	2.91	2.42

(*Continued*)

Table 5. Continued.

Feelings	Enthusiasm (a)		Joy (b)		Hope (c)		ANOVA
	M	SD	M	SD	M	SD	
Want to achieve something?[1]	7.92	2.48	6.86	2.98	7.83	2.54	4.76**
Want to improve yourself?[1]	6.94	6.94	6.69	6.69	7.16	2.86	0.55
Want to connect to someone or something?[3]	6.57[b]	2.84	8.56[ac]	2.06	6.88[b]	2.66	17.37**
Want to get more of something?[2]	6.73	6.73	7.12	7.12	6.71	2.86	0.64
Want to hold on to the situation?[1]	7.14[b]	2.76	9.09[ac]	1.63	6.36[b]	3.06	28.71**
Want to make the experience last longer?[2]	7.16[bc]	2.86	8.77[ac]	2.02	5.94[ab]	3.14	25.24**
Want to be part of a group or movement?[1]	5.81	3.11	4.67	3.19	4.74	3.10	4.32*
Want to be close to someone?[2]	5.99[b]	3.17	8.32[ac]	2.58	6.93[b]	2.76	17.00**
Want to improve your situation?[9]	6.82[c]	2.70	5.85[c]	3.13	8.14[ab]	2.52	15.66**
Want to keep faith?[9]	5.11	3.27	5.03	3.65	6.42	3.16	5.07**
Want to have a positive result in the long run?[1]	7.98[c]	2.27	8.14	2.45	9.07[a]	1.59	7.09**
Want to avoid something negative?[7]	6.70	3.09	6.80	3.38	7.79	2.76	3.60*
Want to obtain something positive?[1]	8.35	1.82	7.57[c]	2.61	8.83[b]	1.96	8.27**
Want to be lucky?[1]	6.37	3.13	6.60	3.09	7.19	2.95	1.84

* Correlation is significant at the .05 level (2-tailed).
** Correlation is significant at the .01 level (2-tailed).
[a] Mean is significantly different to enthusiasm at the .01 level (2-tailed).
[b] Mean is significantly different to joy at the .01 level (2-tailed).
[c] Mean is significantly different to ehope at the .01 level (2-tailed).

[1] Vogelaar et al., 2021
[2] Roseman et al., 2020
[3] Watkins, 2020
[4] Fredrickson, 2001
[5] Averill et al., 1990

[6] Gasper et al., 2020
[7] Lazarus, 1991
[8] Griskevicius et al., 2010
[9] Luo et al., 2022
[10] Cutcliffe & Barker, 2002

feeling uncertain. They did not tend to think about nothing nor about potential negative outcomes. They also did not feel a tendency to pray.

These results indicate that enthusiasm is typified by positivity and openness, high energy, and eagerness. Enthusiasm can further be described by an optimistic goal orientation, devoid of uncertainty or negative thoughts.

Multivariate and univariate differences between response types

In this section, we describe the multivariate and univariate differences in response types. Adhering to the same selection criteria from Study 1, both multivariate and univariate differences were examined at a significance level of $p < .01$. A multicollinearity diagnostic was performed using VIF and Tolerance values as outlined in Study 1. In this analysis, VIF values ranged from 1.522 to 5.663, with Tolerance values ranging from 0.177 to 0.657. Although some VIF values approached 5, they remained below the threshold of 10, and all Tolerance values were above 0.10, indicating that multicollinearity is not a major concern.

In accordance with the analysis for the appraisal items, we investigated the multivariate effects of the response type items to discern if certain response types had a unique association when accounting for shared variance amongst these items. We found significant multivariate relations for 16 response types.

Furthermore, we examined the univariate differences between emotions for these response types through ANOVA analyses, which showed the emotions differing in 48 out of 70 response types, shown in Table 5. For these differences, we utilised post hoc comparisons using Tukey's HSD test to specifically distinguish between enthusiasm versus joy and enthusiasm versus hope.

Differences and similarities in response types between enthusiasm and joy

The multivariate analysis showed that enthusiasm and joy differed on seven response type items. Compared to participants experiencing joy, participants experiencing enthusiasm were more eager (Exp. $B = .513$, $p < .001$), more prepared to take a risk (Exp. $B = .603$, $p < .001$), more inclined to be part of a movement (Exp. $B = .764$, $p = .002$), and more often wanted to obtain something positive (Exp. $B = .391$, $p < .001$). In the joy condition, participants more often felt the tendency to jump up and down (Exp. $B = .1.455$, $p < .001$), and more often wanted to hold onto the situation (Exp. $B = 2.357$, $p < .001$), and to connect to someone or something (Exp. $B = .1.618$, $p < .001$).

On a univariate level, enthusiasm differed from joy on all five assessed response types and on 25 of the 70 response type items. Participants in enthusiasm conditions felt more challenged, impatient, and eager, and demonstrated an increased tendency to take action and risk. They also exhibited more thoughts

about rewards, opportunities, and goal attainment. Their actions were more often aimed at attaining long-term goals and the chances of attaining a goal. Furthermore, they more often prepared for something or took action immediately.

Participants in the joy condition reported more feelings of connection and lightness in their movement, a tendency to jump, savour the moment, and capture experiences. Their actions more often involved celebrating, smiling, and sharing feelings, and they more often desired to be close to someone and to connect to someone or something. Participants in the joy condition more often wanted to hold on to the situation and wanted to make the experience last longer.

Differences and similarities in response types between enthusiasm and hope

The multivariate analysis indicated that enthusiasm and joy differed on nine response type items. Participants in the enthusiasm condition reported feeling more fulfilled (Exp. $B = .615$, $p = .009$), energised (Exp. $B = .417$, $p < .001$), eager (Exp. $B = .578$, $p = .003$), and successful (Exp. $B = .645$, $p = .009$) than participants in the hope condition. They were also more likely to act immediately (Exp. $B = .601$, $p < .001$). Conversely, participants in the hope condition were more likely to ponder potential negative outcomes (Exp. $B = 1.510$, $p < .001$), take time to relax (Exp. $B = .1.336$, $p = .007$), and more often wanted to keep faith (Exp. $B = 1.401$, $p = .001$).

In the hope condition, "feeling strong" came out of the analysis significantly higher than in the enthusiasm condition (Exp. $B = 1.884$, $p < .001$), but we believe that this was the result of a suppressor effect. A suppressor effect can reduce or enhance the correlation between two variables due to the inclusion of an additional variable that acts as a suppressor. We suspect this is the case because on average participants indicated feeling less strong in the hope condition ($M = 6.57$, $SD = 2.17$), than in the enthusiasm condition, ($M = 7.35$, $SD = 1.83$), $p = .022$.

The univariate analysis revealed differences across all five response types between enthusiasm and hope, affecting 20 out of the 70 response type items. The differences were especially observed within the feelings dimension, with 11 out of 18 feeling items diverging between the two emotions. Participants in the enthusiasm condition generally reported a heightened sense of presence, success, fulfilment, relaxation, connectivity, and openness as compared to those in the hope condition, along with an increased frequency of feelings such as energy, eagerness, inspiration, and positivity. Conversely, participants in the hope condition often reported feelings of uncertainty. No thought responses were notably more prevalent in enthusiasm conditions. However, participants in hope conditions frequently reflected on potential negative outcomes, the future, and long-term goals. The only variation in action tendencies was a greater inclination to seize the moment in enthusiasm conditions. Regarding action execution, participants experiencing enthusiasm more often engaged in immediate action and smiling. Furthermore, the enthusiasm condition was more frequently associated with a desire to prolong the experience, while the hope conditions tended to inspire a desire for improved circumstances and long-term positive outcomes.

Discriminant power of response types

Using the same approach as in Study 1, we employed multinomial regression analysis to determine the discriminant power of enthusiasm versus joy and hope. In this instance, multinomial regression was used to ascertain whether the patterns of response types could predict the three emotions. The number of response types was too high to incorporate all of them in a regular multinomial regression analysis. Consequently, we employed a forward stepwise multinomial regression analysis to address this issue. While in a regular multinomial regression, all independent variables are included in the analysis simultaneously, in a forward stepwise multinomial regression, variables are selected for inclusion in a step-by-step manner based on their statistical significance, resulting in a more manageable model. Our findings confirmed that it was indeed possible to predict the three emotions using the response type patterns.

As illustrated in Table 6, the discriminant power of the model was high 79.2% (enthusiasm 78.8%, joy 81.1%, hope 77.8%) with a significant model fit $X^2(42, N = 298) = 374.58$, $p < .001$, and a Nagelkerke R^2 of .806. This indicated that enthusiasm, joy, and hope have different response type patterns.

General discussion

In the present research, we examined the appraisal patterns (Study 1) and the response types (Study 2) associated with enthusiasm. By identifying its distinctive appraisal patterns and response types, and

Table 6. Classification rate by response types of enthusiasm, joy, and hope.

	Predicted			
Observed	Enthusiasm	Joy	Hope	Percent correct
Enthusiasm	89	9	15	78.8%
Joy	13	77	5	81.1%
Hope	12	8	70	77.8%
Overall Percentage	38.3%	31.5%	30.2%	79.2%

comparing these to joy and hope, we aim to describe the unique features of enthusiasm. Insights in the specific features of emotions can enhance theoretical models and their applications, supporting more targeted and effective psychological research. By distinguishing enthusiasm from joy and hope, we gain a better understanding of their unique behavioural and motivational impacts. Different specific emotions have distinct appraisal patterns and response types, which provide valuable insights into their situational triggers and manifestations.

Studying enthusiasm is important because enthusiasm drives action, making it key for understanding motivational processes. Research underscores its significance in customer behaviour, education, and team success, demonstrating its relevance across various domains. By studying enthusiasm, we gain insights into leveraging positive emotions to impact customer behaviour, educational strategies, workplace productivity, and overall personal and professional outcomes. By contrasting enthusiasm with joy and hope, we aim to highlight the proactive nature of enthusiasm and to delineate its specific motivational and goal-directed features. In this discussion, we will further elaborate on the specific profile of enthusiasm.

A profile of enthusiasm based on its appraisals and response types

Upon examining its typical and atypical appraisals and response types, enthusiasm can be characterised as a pleasant, high-intensity emotion that is strongly associated with goal orientation and social interaction. It relates to a sense of connection to something relevant. If situations are perceived as safe and the response is considered appropriate within a social context, individuals experiencing enthusiasm feel a strong urge to share their feelings. They exhibit a reduced level of uncertainty about the future, combined with a strong sense of personal empowerment. Typical for enthusiasm are feelings of positivity, energy, and eagerness. Frequent

smiling and a strong sense of presence are also common, along with feelings of fulfilment and openness, prompting thoughts about favourable outcomes and aspirations for attaining something positive. Conversely, enthusiasm is not typically linked to extensive contemplation of potential negative outcomes.

Enthusiasm appears to motivate the pursuit of desirable outcomes, aligning with Griskevicius et al. (2010), as well as Shiota et al. (2014), who emphasize the centrality of goal conduciveness to the experience of enthusiasm. It is marked by positive energy, a sense of control, and eagerness to act, free from uncertainty or negative thoughts, and a willingness to share feelings in a safe environment.

Differences between enthusiasm and joy

Although enthusiasm and joy are closely related, our study identified several differences between enthusiasm and joy. In terms of appraisal patterns, enthusiasm was more associated with eagerness, impatience, challenge, risk-taking, and a tendency to join movements. Additionally, enthusiasm was frequently linked to goal-driven perspectives, thinking about opportunities and potential rewards, tied to expectations of achieving desired outcomes and an inclination for immediate action. In contrast, joy was more influenced by external circumstances and comfort in expressing feelings, characterised by a sense of lightness and a tendency to jump up and down and take it all in. While both emotions conveyed a profound sense of connection to something meaningful, joy demonstrated a more pronounced connection with significant individuals.

The response types aligned with this. Enthusiasm showed greater eagerness, risk-taking, and motivation to obtain positive outcomes, often driven by an urge for immediate action. Thoughts accompanying enthusiasm were primarily focused on rewards, opportunities, and goal attainment, with their actions consistently aimed at achieving long-term goals and increasing the chances of goal attainment.

Conversely, joy is not an emotion tied to seeking change, rather, it involves a desire to maintain the current situation. It often coincides with a feeling of connection and a longing to sustain this feeling. These findings support Watkins' (2020) idea that joy is an emotion felt when people connect to someone or something and Roseman et al.'s (2020) conceptualisation of joy as a state promoting behaviours that maintain reward.

To summarise, enthusiasm often manifests with confidence in the ability to improve the current situation, accompanied by a readiness to take action, join movements, and assume the associated risks. On the other hand, joy is characterised by being in the moment, nurturing connections, and taking it all in, without seeking change.

Differences between enthusiasm and hope

Our study also revealed differences between enthusiasm and hope. Enthusiasm conditions were generally perceived as pleasant, contrasting to the frequently unpleasant perceptions associated with conditions involving hope. This finding supports prior theoretical perspectives of hope. As Lazarus (1991) and Tong (2015) highlight, hope is often felt in adverse circumstances. Enthusiasm was linked to increased fulfilment, energy, eagerness, and success. It was also related to a heightened sense of connection to something of importance. While goal orientation was important for both emotions, enthusiasm was more related to short-term needs, when an important goal was in sight or accomplished, along with a tendency for immediate action and an increased sense of personal control. In contrast, hope often involved a perception of control being influenced by external circumstances or other individuals with an increased degree of uncertainty about the future. This aligns with Tong's (2015) empirical findings, which highlighted that hope often entails a lower sense of personal control and a greater perception that external circumstances steer the course of events. Hope was more often linked to thinking of potentially negative outcomes, taking time to relax, and maintaining faith. Hope was further linked to a higher sense of urgency, a feeling that action was required to cope with the consequences of the situation. This observation might be influenced by the way the specific item was stated, specifically the term "required to cope", which presumes the necessity to deal with negative outcomes.

Regarding response types, enthusiasm was typically linked to an enhanced sense of positivity, eagerness, and connectedness, along with increased feelings of success and fulfilment. Conversely, hope was associated with feelings of uncertainty and a propensity to consider potential negative outcomes. People experiencing enthusiasm focused more on seizing the present moment and extending the experience, whereas hope predominantly related to a desire for better future outcomes. This characteristic reflects Roseman et al.'s (2020) finding that hope is experienced when individuals optimistically focus on a desired future state. It is also congruent with Luo et al.'s (2022) prototype analysis indicating that hope combines a belief in the possibility of a future outcome with a desire for that outcome.

In essence, enthusiasm is about being excited in the present moment and taking action to seize opportunities, while hope is about looking toward the future with optimism and perseverance despite misfortune or setbacks.

Strengths, limitations, and future directions

Our research contributes to the understanding of enthusiasm by identifying its appraisals and response type profile, and by clarifying the difference with joy and hope. A deeper insight into the commonalities and distinctions of these closely related emotions grants us a more precise grasp of enthusiasm's unique characteristics. A better understanding of this positive emotion can help individuals better cultivate and sustain it, leading to increased motivation and achievement. By narrowing the scope of our analyses to these three emotions, we were able to establish a foundational understanding of the intricate relationships between these emotions. Positive emotions like contentment, interest, or inspiration, while also relevant, align less with the motivational and goal-directed aspects we aim to explore with enthusiasm. Our research strategy for the current study was to provide an in-depth examination of enthusiasm by focusing on identifying its central and peripheral appraisals and response types. Therefore, we chose to include a comprehensive list of appraisals and response types to compare enthusiasm specifically with joy and hope, as these emotions are more closely aligned with the goal-directed nature of enthusiasm. Future studies could examine how enthusiasm uniquely differs from these or other positive emotions. A comparative study with a broader

spectrum of emotions would provide a more comprehensive understanding of where enthusiasm stands in the vast emotional landscape. This would provide an even richer understanding of enthusiasm, potentially benefiting both theoretical frameworks and practical applications in fields like psychology, education, and organisational behaviour.

The specific appraisals and response types selected for this study largely drew from existing research in the field. Historically, this body of research has predominantly focused on negative emotions. To address this gap, we incorporated new sets of appraisals and response types derived from our previous research. Future research could build upon this. For example, when investigating a broader spectrum of appraisals and response types. Empirical examinations of these sets across diverse positive emotions would be especially insightful. Employing such comprehensive sets in future investigations will undoubtedly deepen our comprehension of positive emotions, including enthusiasm.

One of the strengths of our study is the use of a well-established recall method for emotions that is commonly used in appraisal research (e.g. Roseman et al., 1994; Smith & Ellsworth, 1985; Tong, 2015; Van Dijk & Zeelenberg, 2002; Yih et al., 2020; Zeelenberg et al., 1998), ensuring consistency and comparability with previous studies on appraisals and response types of emotions. Although self-report measures in general can introduce potential biases related to memory recall and social desirability, the autobiographical recall method we used is considered appropriate for assessing appraisals because it asks participants to keep a specific real-life emotional experience in mind that they associate with the specific emotion at hand. It is also important to emphasize that our goal was not to induce real-time emotions. Instead, asking participants to recall and describe past emotional experiences allowed us to capture detailed contextual information and retrospective appraisals and response types. This is corroborated by Mills and D'Mello (2014), who demonstrated that the Autobiographical Emotional Memory Task (AEMT) effectively induces specific emotions by having participants recall and write about intense emotional experiences. However, they also found that this method could inadvertently induce other incidental emotions. In our study, we also observed this. For example, in the enthusiasm condition, high levels of joy (but less hope) were also reported in addition to intense enthusiasm. This

might imply that differences in appraisals and response types between joy and enthusiasm are, in fact, larger than those we found.

Although the recall method used in our studies is well-established, we acknowledge the ecological limitations of self-reported online questionnaires. To broaden the methodological scope, future research could focus on studies conducted in more realistic environments and/or manipulate appraisals and examine whether this influences the experience and appraisals of enthusiasm. For example, a study could induce an appraisal of goal-achievement anticipation and test whether this elicits more intense enthusiasm relative to joy. This would further validate our finding that enthusiasm, more than joy, is driven by goal-achievement anticipation.

Finally, we acknowledge that our sample was confined to UK participants, suggesting that the findings may predominantly represent the Western perspective on emotions. Emotions are notably shaped by cultural contexts and associated display rules inherent within these settings (Matsumoto, 2007). Future research might benefit from expanding the sample to encompass a broader array of cultural backgrounds, drawing inspiration from studies like that of Tong (2015) which integrated a cross-cultural viewpoint.

Conclusion and closing remarks

Enthusiasm, as demonstrated in the current research, emerges as a unique emotion, characterised by pleasant intensity, goal orientation, active social engagement, and a profound sense of self-empowerment. Enthusiasm often emerges when individuals perceive a goal as attainable and believe that immediate action may significantly enhance the likelihood of successful outcomes. Enthusiasm is marked by a distinct sense of eagerness and readiness for risk-taking, suggesting a proactive approach toward seizing opportunities.

Our findings further revealed that enthusiasm, joy, and hope are different emotions. They likely have different functions and tend to occur in different situations and time frames. Whereas hope is commonly experienced in situations with distant, uncertain goals where maintaining a positive outlook is key, joy tends to arise upon the successful achievement of a goal. Enthusiasm, however, stands out with its goal-directed energy and readiness for action. It propels individuals into an engaged, empowered state, enabling them to actively interact with their surroundings and work towards their goals.

Looking forward, we express our earnest hope that future research will continue to delve deeper into the nuanced landscape of enthusiasm, further enriching the understanding and appreciation of this potent emotion.

Notes

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