


## Translation, Adaptation, and Validation of the Emotion Beliefs Questionnaire for the Portuguese Population (EBQ-P)

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**Abstract:** Beliefs about emotions, particularly their controllability and usefulness, shape emotion-regulation strategies and psychological well-being. This study aimed to translate, adapt, and validate the Emotion Beliefs Questionnaire (EBQ) for European Portuguese (EBQ-P), following the International Test Commission guidelines. Data from 373 adults (81.5% female;  $M = 43.87$  years) were analysed. Exploratory ( $n = 183$ ) and confirmatory ( $n = 190$ ) factor analyses supported a four-factor structure (Negative Controllability, Positive Controllability, Negative Usefulness, and Positive Usefulness), consistent with recent international validations. The four-factor model showed acceptable fit ( $CFI = .91$ ,  $TLI = .90$ ,  $SRMR = .06$ ,  $RMSEA = .09$ ). Internal consistency ranged from modest to excellent (Cronbach's  $\alpha = .57-.92$ ; McDonald's  $\omega = .59-.91$ ). Negative emotions were perceived as more controllable than positive emotions, whereas positive emotions were perceived as more useful. Overall, the EBQ-P shows sound psychometric properties and provides a reliable, valid instrument for assessing emotion beliefs in the Portuguese population.

**Keywords:** *emotion beliefs questionnaire, beliefs about emotions, validation, psychometrics*

Individuals' beliefs about emotions play a fundamental role in how people interpret, respond to, and regulate emotional experiences, both their own and those of others. These beliefs influence whether individuals view emotions as meaningful, manageable, or disruptive and, as a result, shape the strategies they use to regulate emotions in daily life. For example, individuals who see emotions as controllable are more likely to engage in adaptive strategies such as cognitive reappraisal, whereas those who view emotions as uncontrollable may rely more on suppression or avoidance (Deplancke et al., 2022; Vuillier et al., 2021).

While a wide range of beliefs about emotions can be identified, two dimensions have received particular attention in recent research and are considered conceptually distinct and foundational: (a) beliefs about the controllability of emotions and (b) beliefs about the usefulness of emotions (Ford & Gross, 2018, 2019). Controllability beliefs refer to whether individuals perceive emotions as modifiable through intentional effort, whereas usefulness beliefs concern whether emotions, positive or negative, are viewed as beneficial or detrimental in achieving goals or navigating social situations. These two dimensions can be meaningfully crossed with emotional valence, yielding beliefs about the controllability or usefulness of positive and negative emotions separately, a structure that has been increasingly supported across cultures (e.g., Johnston et al., 2024; Ranjbar et al., 2023).

Emotion beliefs have important implications for psychological functioning. For instance, Ford and colleagues (2018) found that individuals who believed their emotions were uncontrollable reported higher levels of depressive symptoms, potentially because these beliefs undermine motivation to regulate emotions effectively. Similarly, evaluations of emotional usefulness predict emotional well-being: individuals who see positive emotions as valuable report higher psychological health, whereas those who view negative emotions as harmful tend to report worse outcomes (Willroth et al., 2023).

According to Ford and Gross (2019), these beliefs are shaped by early life experiences, parenting practices, and cultural norms through socialisation processes. Parents influence children's emotion beliefs through emotion-related conversations, modelling of emotional behaviour, and responses to children's emotions. For example, emotion-coaching parenting predicts greater emotional understanding and a belief that emotions are manageable, whereas dismissing or punitive responses can foster beliefs that emotions are overwhelming or unhelpful (Gottman et al., 1996; Dunsmore et al., 2009).

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At a broader level, cultural contexts play a central role in shaping emotion beliefs (Mesquita, 2001; Uchida et al., 2004). Some cultural frameworks encourage the expression of negative emotions as a signal of authenticity or relational attunement, whereas others interpret these same emotions as socially inappropriate or personally undesirable. These sociocultural norms not only shape how emotions are interpreted but also influence how individuals respond to the emotions of others, contributing to shared emotional climates and societal patterns of emotional behaviour (Barrett, 2017).

Emotion beliefs influence not only intrapersonal regulation but also social interaction. People who believe emotions are controllable tend to offer greater emotional support, respond more constructively to the emotions of others, and show higher empathy and prosocial behaviour (e.g., Smith et al., 2023). Conversely, fixed or negative beliefs about emotions are associated with avoidance, interpersonal withdrawal, and suppression in social encounters (Tamir et al., 2007; Ford et al., 2018). In applied settings such as education, teachers' and parents' beliefs about emotions shape how they respond to children's emotional expressions, influencing emotional climates in classrooms and families (Hagan et al., 2020). Thus, emotion beliefs are central mechanisms not only in emotional functioning but also in interpersonal and social processes.

As emotion-related beliefs are not a unitary domain, several instruments have been created to capture different facets of these beliefs. Some of these instruments are: the Implicit Theories of Emotion Scale (ITES; Tamir et al., 2007), that measures beliefs about the malleability of emotions; the Emotion and Regulation Beliefs Scale (Veilleux et al., 2015), that assesses beliefs that emotions can hijack self-control, beliefs that emotion regulation is a worthwhile pursuit, and beliefs that emotions can constrain behaviour; the Evaluations of Emotions Scale (EVE; Netzer et al., 2018), that assesses the cognitive components of attitudes toward emotions; the Lay Theories of Emotion (Ben-Artzi & Mikulincer, 1996), that examine the attributes lay persons attach to emotional experiences; and the Perceived Utility of Emotion (Chow & Berenbaum, 2012), that measures the degree to which emotions are perceived to be useful in achieving goals.

Considering that we intended to assess beliefs about the controllability and usefulness of both positive and negative emotions, part of Ford & Gross (2018, 2019) framework, the Emotion Beliefs Questionnaire (EBQ; Becerra et al., 2020) was chosen, as it is the only measure available, at the best of our knowledge, designed to assess these two theoretically central belief dimensions, crossing with emotional valence.

### **The present study**

The present study aimed to translate, culturally adapt, and validate the Emotion Beliefs Questionnaire (EBQ; Becerra et al., 2020) for the Portuguese adult population. The EBQ is a 16-item self-report instrument designed to assess individuals' beliefs about the controllability and usefulness of emotions, across both positive and negative valences.

To date, the EBQ has been adapted for several cultural contexts, including Italian (Rogier et al., 2023), Norwegian (Raanes et al., 2024), Iranian/American (Ranjbar et al., 2023), English-speaking community samples (Johnston et al., 2024), German (Gutzweiler & Grüning, 2025), Polish (Larionow et al., 2024), and Japanese (Kashimura et al., 2023).

These studies consistently followed a confirmatory approach, relying only on CFA to test the suitability of the original factor structure in each new context. In contrast, the present study adopted a two-stage analytic strategy, incorporating both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to examine the EBQ's latent structure that naturally emerged in the Portuguese population, before imposing any specific model. This distinction is especially relevant for cross-cultural adaptation, where linguistic nuance, cultural norms, and emotion socialisation practices may influence how constructs are represented (Mesquita, 2001; Ford & Gross, 2019). Accordingly, the EFA was used as an initial diagnostic tool to evaluate whether the conceptual dimensions proposed by the original authors would replicate or require adjustment in the Portuguese context, followed by CFA to formally test the resulting structure.

While some earlier adaptations also included additional psychological measures to investigate convergent or predictive validity, the present study intentionally focused on establishing linguistic, conceptual, and structural equivalence, following the International Test Commission's guidelines for test translation and adaptation (ITC, 2017). Establishing a robust internal structure is an essential first step before extending validation to related constructs such as emotion regulation, well-being, or psychopathology.

By combining a culturally grounded translation process with both exploratory and confirmatory analyses, this study provides a comprehensive foundation for the use of the EBQ in Portuguese-speaking

contexts and supports future work exploring more differentiated belief systems, including beliefs tied to discrete emotions rather than broad valence categories.

## METHOD

### Participants

A total of 476 adults were recruited through online social platforms and academic networks. Only participants who indicated they were of Portuguese nationality were included in the analyses. Of these, 70 were excluded due to incomplete responses, 29 for failing an attention check (where participants had to select a specific Likert-scale point, as in the original study), and 3 for being identified as statistical outliers.

The final sample consisted of 373 participants. This sample size exceeds recommended guidelines for factor analysis of instruments with 16 items and meets the 10:1 participant-to-item ratio typically required for confirmatory factor analysis (Costello & Osborne, 2005; Kline, 2016). The sample included 304 women (81.5%) and 69 men (18.5%), reflecting a gender imbalance which is acknowledged as a limitation for potential invariance analyses. The mean age was 43.87 years ( $SD = 10.30$ ). Regarding educational background, 76.60% held a university degree (50.1% bachelor's, 27.1% master's, and 2.4% doctoral), while 19% had completed secondary education and 1.3% basic education.

### Translation and Adaptation Procedure

The translation process followed the guidelines of the International Test Commission (ITC, 2017), recognised as the international gold standard for instrument translation and cultural adaptation. A double-translation and reconciliation procedure was employed involving five translators. Two translators conducted independent forward translations, followed by a backward translation by a third translator. Finally, a panel of two experts in psychological assessment and emotion theory resolved discrepancies, ensuring both linguistic and conceptual equivalence. All were fluent in both languages (English and Portuguese) and with a background in psychology. No major cultural adaptations were required during this process.

### Procedure

Data were collected online in two independent waves using Qualtrics. The first data collection occurred between December 2 and 12, 2024, and the second between October 22 and 27, 2025. Participants first accessed an information page describing the study's purpose, voluntary nature, confidentiality procedures, and estimated completion time, after which informed consent was obtained electronically.

Following consent, participants completed demographic questions and the 16-item EBQ-P in the same fixed order as the original instrument (Becerra et al., 2020), using a 7-point Likert scale (1 = Strongly disagree; 7 = Strongly agree). The average participation duration across both waves was approximately 5 minutes.

At the end of the questionnaire, participants were invited to comment on item clarity, with the following question: "Finally, we would like to know your opinion about the scale. Please indicate whether you experienced any difficulty in understanding any of the statements, or if you felt they were clear and well-formulated. Your opinion is very important to help us assess the clarity, comprehensibility, and adaptability of the scale."

Of the 373 participants, 46% did not provide comments and 47% indicated that the items were clear or easy to understand. The remaining noted the expected repetition arising from parallel items with opposite valences, and a few mentioned minor difficulties with negatively worded statements. Only four participants expressed uncertainty regarding distinctions between "controlling" and "managing" emotions. No single item was consistently flagged as problematic. These responses were reviewed prior to analysis and supported the linguistic adequacy and conceptual clarity of the adapted items.

The study adhered to the APA Ethical Principles of Psychologists and Code of Conduct (2017, Sec. 8.05a). Because the study involved anonymous, minimal-risk self-report questionnaires with no deception or sensitive content, formal ethics review was not required. All procedures complied with the General Data Protection Regulation (GDPR; EU 2016/679). Participation was voluntary, and no financial compensation was provided.

### Statistical Analysis

Psychometric evaluation of the EBQ-P followed the methodological framework typically used in scale adaptation studies and in the original validation (Becerra et al., 2020), combining EFA, CFA, and reliability assessment.

To ensure robust structural validation, the full sample was randomly split in half. This approach reduces potential bias and enhances the generalisability of the factor structure across independent subsamples (Worthington & Whittaker, 2006). EFA was conducted on one subsample ( $n = 183$ ) with IBM SPSS Statistics (version 30.0.0.0 for Mac), using principal axis factoring with direct oblimin rotation, given non-normal item distributions and the expectation of correlated factors. Sampling adequacy was assessed using the Kaiser-Meyer-Olkin (KMO) index and Bartlett's test of sphericity. Retention decisions were based on eigenvalues  $>1$ , scree plot inspection, item communalities, and factor loadings. We adopted conventional a priori thresholds: loadings  $\geq .30$  were considered salient,  $\geq .40$  strong; cross-loadings were flagged when an item loaded  $\geq .30$  on more than one factor with  $< .20$  difference between loadings; communalities  $< .30$  were examined for potential concern (Costello & Osborne, 2005; Field, 2018).

The resulting structure was then validated via CFA on the second subsample ( $n = 190$ ) using JASP (version 0.19.2 for Mac). Maximum likelihood estimation assessed model fit via multiple indices:  $\chi^2$ , CFI, TLI, RMSEA with 90% CI, and SRMR. Model fit was considered acceptable when CFI and TLI  $\geq .90$ , RMSEA  $< .08$ , and SRMR  $< .08$  (Hu & Bentler, 1999). In addition to the EBQ-P four-factor model supported by the EFA, we tested the three-factor model described in the original EBQ development (Becerra et al., 2020) to evaluate structural equivalence in the Portuguese context.

Internal consistency was evaluated using Cronbach's alpha ( $\alpha$ ) and McDonald's omega ( $\omega$ ), as recommended for scales with few items per factor. Average inter-item correlations (AIC), corrected item-total correlations, and part-whole corrected internal consistency were also computed. Criteria for interpretation followed Clark and Watson (1995) and Hajjar (2018):  $\alpha \geq .70$  and AIC between .15 and .50 were considered acceptable.

To explore mean-level differences in emotion beliefs by valence, paired-samples t-tests were conducted comparing Negative vs. Positive Controllability and Negative vs. Positive Usefulness. Effect sizes were interpreted using Cohen's  $d$  (Cohen, 1988). All EBQ-P subscale scores were computed as the sum of their four constituent items (range 4–28), following the scoring procedure of the original EBQ validation (Becerra et al., 2020) and subsequent adaptations. All items were mandatory, preventing item-level missing data.

## RESULTS

### Exploratory Factor Analysis

Sampling adequacy was supported by a KMO value of .86, and Bartlett's test of sphericity was significant,  $\chi^2(120) = 1391.60, p < .001$ , indicating that the data were suitable for factor analysis.

Initial eigenvalue inspection suggested a three or four-factor solution, with eigenvalues of 1.48 and .98 respectively. After testing both solutions, we realised that the four-factor structure showed clearer and more interpretable patterns, with higher communalities and reduced cross-loading severity relative to the three-factor model.

The four extracted factors corresponded to: Negative Controllability (NC), Positive Controllability (PC), Negative Usefulness (NU), and Positive Usefulness (PU). These factors align with the multidimensional structure observed in the majority of international EBQ adaptations, including the American (Johnston et al., 2024), Italian (Rogier et al., 2023), Iranian/American (Ranjbar et al., 2023), Japanese (Kashimura et al., 2023), Polish (Larionow et al., 2024), and German (Gutzweiler & Grüning, 2025) validations.

Communalities were generally strong, except for two items that were  $< .30$  (EBQ4 and EBQ16). All items loaded primarily on their intended factors, except for items EBQ6 and EBQ13 that displayed cross-loadings  $\geq .30$  on both factors. This pattern is not unique to the Portuguese version, as in the original validation (Becerra et al., 2020), EBQ6 also displayed a small secondary loading ( $> .20$ ) on a different factor, suggesting that this wording can be slightly complex across samples. Moreover, no subsequent adaptation conducted an EFA, so the absence of reported cross-loadings in other versions reflects a lack of exploratory analyses rather than evidence that these items behave perfectly. From a psychometric standpoint, having a very small number of modest cross-loadings is expected in applied factor analysis with oblique rotation (Beauducel & Hilger, 2023; Costello & Osborne, 2005). Because recommendations emphasise prioritising overall simple structure and theoretical interpretability, rather than demanding perfectly "pure" items (e.g., Costello & Osborne, 2005). In addition, removing EBQ6 and EBQ13 would break the conceptual and linguistic symmetry between positive and negative controllability (the items are parallel, differing only in emotional valence), would reduce the coverage of a central aspect of the construct, namely beliefs about controllability, and undermine comparability with the original EBQ and all published adaptations, which retained all 16 items, we opted to retain EBQ6 and EBQ13, while explicitly acknowledging this minor deviation from ideal simple structure as a limitation of the measure.

Overall, the four-factor model accounted for 64.84% of the total variance. Given its superior interpretability, higher communalities, and theoretical alignment with current cross-cultural findings, this solution was retained for subsequent CFA testing.

Full, unsuppressed pattern matrices and communalities for all items (including low-magnitude loadings) are presented in the Supplementary Material, in accordance with best practices for EFA reporting.

**Table 1.** Factor Loadings from an Exploratory Factor Analysis of the Items of the EBQ-P

Item	Factor 1(Negative-usefulness)	Factor 2(Positive-usefulness)	Factor 3(Negative-controllability)	Factor 4(Positive-controllability)
Item 15	.858			
Item 7	.844			
Item 11	.810			
Item 3	.760			
Item 13	.425		-.408	
Item 6	.392			-.365
Item 8		.806		
Item 12		.535		
Item 4		.463		
Item 16		.463		
Item 5			-.729	
Item 1			-.723	
Item 9			-.512	
Item 10				-.742
Item 14				-.615
Item 2				-.412

*Note.* Factor loadings < .30 are suppressed for clarity in this table. The full, unsuppressed pattern matrix is provided in the Supplementary Material. Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalisation. Four factors were extracted (fixed number of factors) accounting for 64.84% of the variance in item scores.

### Confirmatory Factor Analysis

Confirmatory factor analysis was conducted in JASP on the second subsample ( $n = 190$ ), examining two models. The original three-factor model proposed by Becerra et al. (2020) (Model 1) and the four-factor structure suggested by our EFA results and subsequent international adaptations (Model 2). This analytic strategy is consistent with prior EBQ validation studies, which have relied on CFA to examine the instrument's structure within different cultural and linguistic contexts. Figure 1 provides a visual representation of both models, and Table 2 presents the corresponding fit indices.

In the original development study of EBQ (Becerra et al., 2020), the three-factor model (General Controllability, Negative Usefulness, Positive Usefulness) demonstrated acceptable fit, and its adoption over the four-factor alternative was justified on the basis of (a) statistically similar fit, (b) very high correlations between Negative and Positive Controllability, and (c) the parsimony principle, which recommends selecting the simpler structure when models are equivalent.

In contrast, when tested in the Portuguese sample, the same three-factor model (Model 1) did not reach acceptable fit levels (CFI = .866; TLI = .840; RMSEA = .105; SRMR = .069). This pattern indicates that, unlike in the original study, collapsing positive and negative controllability into a single factor does not adequately represent the structure of emotion beliefs in Portuguese adults.

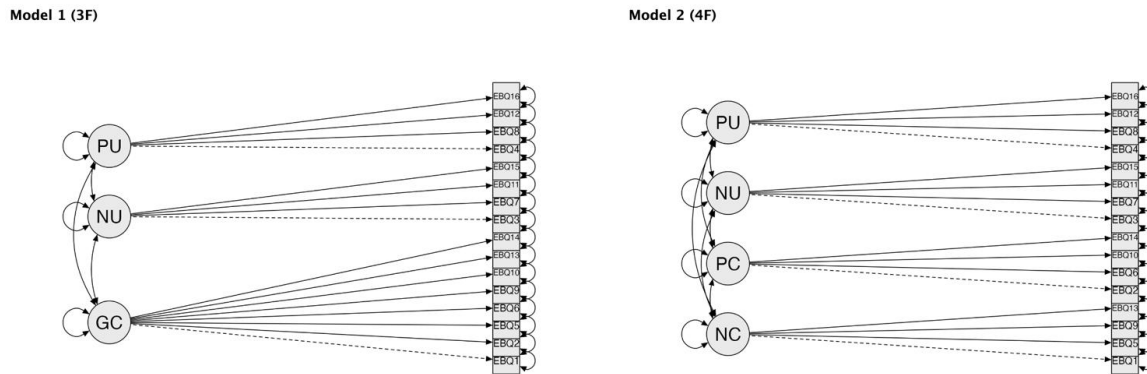
When examining the fully valence-specific four-factor model (Negative Controllability, Positive Controllability, Negative Usefulness, and Positive Usefulness), here as Model 2, it showed a substantial improvement over Model 1, meeting the recommended thresholds for acceptable model fit (CFI = .912; TLI = .892; RMSEA = .086; SRMR = .059). Additionally, the latent correlations demonstrated that although the two controllability dimensions were moderately related ( $r = .71$ ), they were not collinear. Convergent and discriminant validity analyses reinforced this interpretation, as HTMT values between factors were well below conservative cut-offs (.18–.68), and no latent correlation approached problematic levels. These

results support the view that Positive and Negative Controllability reflect related yet empirically distinct belief domains.

Importantly, the superiority of the four-factor model in the Portuguese context aligns with patterns observed in more recent EBQ adaptations (e.g., German, Polish, Japanese), which have also reported evidence favouring valence-specific controllability factors. Thus, the present findings both replicate and extend the cross-cultural consistency of the EBQ structure.

Given its stronger empirical performance, conceptual clarity, and alignment with contemporary adaptations, the four-factor first-order model (Model 2) was retained as the final measurement model for the EBQ-P.

**Figure 1 Visual Representation of the Various Confirmatory Factor Analysis Models Tested for the EBQ-P.**



*Note.* Circles represent latent factors and squares represent items. GC = General-Controllability; NC = Negative-Controllability; PC = Positive-Controllability; NU = Negative-Usefulness; PU = Positive-Usefulness.

**Table 2. Goodness-of-Fit Index Values For EBQ-P Models**

Model	Factors	$\chi^2$ (df)	CFI	TLI	RMSEA (90% CI)	SRMR
1	3-factor	310.595 (190)	.866	.840	.105 [.091, .118]	.069
2	4-factor	235.177 (190)	.912	.892	.086 [.072, .100]	.059

*Note.* For all models,  $\chi^2 p < .001$ .  $\chi^2$  = chi-square; *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; CI = confidence interval; SRMR = standardised root-mean-square residual; *n* = 190.

### Reliability

Internal consistency of the EBQ-P was examined for each of the four subscales identified in the final measurement model. To provide a robust assessment of reliability for brief subscales, both Cronbach's alpha ( $\alpha$ ) and McDonald's omega ( $\omega$ ) were computed. Across the four dimensions, internal consistency coefficients ranged from acceptable to excellent. Negative Controllability, Positive Controllability, and Negative Usefulness displayed strong reliability ( $\alpha$  range = .78-.92;  $\omega$  range = .78-.91). Positive Usefulness showed the lowest internal consistency ( $\alpha$  = .57;  $\omega$  = .59). Inspection of item distributions revealed pronounced floor effects, as all four items in this dimension are reverse-keyed and strongly negatively phrased, producing extremely skewed response patterns. Most participants strongly disagreed with these statements, reflecting a broad cultural endorsement that positive emotions are useful. This compression of variance naturally attenuates inter-item correlations and leads to lower  $\alpha$  and  $\omega$  values, even when the items remain semantically coherent and theoretically aligned.

Similar patterns have emerged in multiple international adaptations, such as the Norwegian version that reported  $\alpha$  = .64 (Raanes et al., 2024), and cross-cultural validation work comparing Iranian and U.S. adults (Ranjbar et al., 2023) found substantial variability in this subscale's reliability ( $\alpha$  = .74 in Iran vs. .92 in the United States). In contrast, the original Australian validation (Becerra et al., 2020) and a subsequent psychometric study in U.S. samples (Johnston et al., 2024) reported higher internal consistency values (.83 and .84, respectively). Together, these findings suggest that reliability estimates for Positive Usefulness may be sensitive to linguistic and cultural nuances in how respondents interpret strongly worded statements about the usefulness of positive emotions or it may reflect some item-level functioning issues, and some items may require further refinement in the Portuguese context.

Within subscales, inter-item correlations ranged from  $-.03$  to  $.82$ , with most values falling between  $.20$  and  $.50$ , which indicates that, although the items are related, they also capture distinct aspects of the construct. The strongest correlation was observed between items 3 and 7 ( $r = .82$ ), both belonging to the Negative Usefulness subscale, reflecting the internal coherence of that dimension.

Corrected item-total correlations exceeded the recommended threshold of  $.30$  for all items, demonstrating that each item contributed meaningfully to its respective subscale (range =  $.32$ – $.85$ ). Part-whole corrected internal consistency analyses further showed that removing any single item did not improve reliability for any subscale, supporting the adequacy of all items within the validated four-factor structure.

Descriptive statistics and internal consistency estimate for the EBQ-P subscales ( $\alpha$  and  $\omega$ ) are presented in Table 3. Item-level descriptive statistics (means, standard deviations, skewness, and kurtosis) for all EBQ-P items as well as detailed part-whole corrected internal consistency coefficients ( $\alpha$  and  $\omega$  if item dropped) and item-rest correlations for each subscale are reported in the Supplementary Material.

**Table 3.** Descriptive Statistics and Internal Consistency Estimates for the EBQ-P

EBQ-P Subscale	1	2	3	4
1. Negative Controllability	—			
2. Positive Controllability	.59	—		
3. Negative Usefulness	.52	.60	—	
4. Positive Usefulness	.18	.19	.14	—
<i>M</i>	8.34	9.36	9.20	6.42
<i>SD</i>	3.46	4.01	5.23	2.68
N. <sup>o</sup> of items	4	4	4	4
$\alpha$	.78	.80	.92	.57
$\omega$	.78	.80	.91	.59
AIC	.48	.52	.73	.33

*Note.* All correlations were significant at  $p < .01$ .  $\alpha$  = Cronbach's alpha;  $\omega$  = McDonald's omega; AIC = Average Inter-Item Correlation. All subscale scores reflect summed items (range 4–28).

To assess differences in beliefs about the controllability and usefulness of negative versus positive emotions, two paired-samples *t*-tests were conducted. Given that all items are negatively phrased (e.g., “People cannot control their positive emotions”), higher scores indicate stronger beliefs that emotions are less controllable or less useful, whereas lower scores indicate stronger beliefs that emotions are more controllable or more useful.

A significant difference emerged between Negative Controllability and Positive Controllability,  $t(372) = -5.73$ ,  $p < .001$ ,  $d = -.30$ , 95% CI  $[-.40, -.19]$ . Participants endorsed significantly lower scores for Negative Controllability relative to Positive Controllability, indicating that they viewed negative emotions as more controllable than positive emotions. This pattern is consistent with findings from the original validation by Becerra et al. (2020) and aligns with theoretical accounts suggesting that individuals may perceive negative emotions as more amenable to regulation because they more frequently deploy regulatory strategies in response to these states (Ford & Gross, 2019).

A second paired-samples test showed a significant difference between Negative Usefulness and Positive Usefulness,  $t(372) = 9.70$ ,  $p < .001$ ,  $d = .50$ , 95% CI  $[.39, .61]$ . As expected, participants rated positive emotions as substantially more useful than negative emotions. The effect size observed in this Portuguese sample ( $d = .50$ ) was larger than the value reported in the original validation by Becerra et al. (2020;  $d = .21$ ), suggesting that Portuguese participants differentiate more strongly between the usefulness of positive and negative emotions.

Overall, the mean-level differences for both controllability and usefulness dimensions are consistent with prior EBQ literature and reinforce the construct validity of the four-factor structure. These findings further highlight that beliefs about emotions are valence-sensitive, with positive and negative emotions being evaluated differently in terms of how controllable and useful they are perceived to be.

## DISCUSSION

The present study aimed to translate, adapt, and validate the Emotion Beliefs Questionnaire for the Portuguese population (EBQ-P). The findings support a four-factor structure that distinguishes beliefs about the controllability and usefulness of positive and negative emotions. This model demonstrated good

psychometric performance, with acceptable to excellent internal consistency across subscales, and good fit indices in confirmatory analyses. These results provide robust evidence that, in the Portuguese population, beliefs about emotions are valence-sensitive, and that separating controllability and usefulness across positive and negative emotions offers a more precise representation of the underlying construct.

A central contribution of this study lies in the systematic use of both exploratory and confirmatory factor analyses. In the original development of the EBQ, Becerra et al. (2020) tested both a three-factor and a fully valence-specific four-factor model and reported that the four-factor solution provided the best overall fit, although the two controllability factors were highly correlated. For reasons of parsimony, they retained a three-factor structure. Subsequent validations, however, have moved directly to CFA, with the Norwegian version supporting three factors (Raanes et al., 2024) and most other adaptations - Italian (Rogier et al., 2023), Japanese (Kashimura et al., 2023), German (Gutzweiler & Grüning, 2025), Polish (Larionow et al., 2024), and Iranian-U.S. (Ranjbar et al., 2023) - supporting a four-factor solution. This mixed pattern suggests that the underlying structure of the EBQ is not yet unequivocally established and may vary across cultural and methodological contexts.

Psychometric guidelines recommend that when no single clearly justified a priori model exists, researchers should allow the structure to emerge from the data rather than imposing it beforehand (Fabrigar et al., 1999; ITC, 2017). EFA is especially valuable in cross-cultural adaptation because it can detect translation nuances, cultural shifts in item functioning, and country-specific covariance patterns that may be obscured by a confirmatory-only approach. Once a plausible structure has been identified, CFA can be used to test that structure, ensuring that the final model is both theoretically grounded and empirically supported. In the present study, this sequential EFA and CFA strategy yielded a clear and interpretable four-factor solution that showed good fit without requiring correlated residuals, reinforcing the construct validity and cross-cultural robustness of the EBQ-P.

From a cross-cultural perspective, the Portuguese results align closely with most recent validations that favours a four-factor model. Italian, Japanese, German, and Polish studies all reported that distinguishing controllability and usefulness for positive and negative emotions improves fit and produces clearer factor loadings compared to more parsimonious structures (Rogier et al., 2023; Kashimura et al., 2023; Gutzweiler & Grüning, 2025; Larionow et al., 2024). Similarly, the Iranian-U.S. comparison supported a four-factor structure and demonstrated partial measurement invariance across cultures, suggesting a shared conceptual architecture of emotion beliefs that still allows meaningful cultural variability (Ranjbar et al., 2023). The present findings add Portugal to this growing set of countries in which a valence-specific representation of emotion beliefs is empirically justified. At the same time, the persistence of a three-factor solution in Norway (Raanes et al., 2024) reinforces the importance of allowing structural models to emerge empirically, as cultural and linguistic factors may influence whether positive and negative controllability are strongly differentiated.

The reliability pattern observed in the EBQ-P also mirrors international findings. Negative Controllability, Positive Controllability, and Negative Usefulness showed good to excellent internal consistency, in line with previous adaptations (e.g., Johnston et al., 2024; Kashimura et al., 2023; Rogier et al., 2023). By contrast, Positive Usefulness displayed more modest reliability, an effect also reported in Norway (Raanes et al., 2024) and in some non-Western samples (Ranjbar et al., 2023). This attenuation aligns with pronounced floor effects across cultures. All items are reverse-keyed and strongly worded, leading most participants to strongly reject statements implying that positive emotions have little usefulness (Kashimura et al., 2023; Johnston et al., 2024). This compression of variance reduces internal consistency despite adequate item-rest correlations. These converging observations suggest that cross-cultural differences in Positive Usefulness reflect meaningful variation in how strongly different societies endorse the inherent value of positive emotions.

The pattern of mean differences between subscales further situates the Portuguese data within the international literature. Consistent with the original validation (Becerra et al., 2020) and with subsequent work in Japanese, Italian, German, Iranian and U.S. samples (Kashimura et al., 2023; Rogier et al., 2023; Gutzweiler & Grüning, 2025; Johnston et al., 2024), Portuguese participants perceived negative emotions as more controllable and positive emotions as more useful. These differences align with emotion-regulation research suggesting that negative emotions more reliably trigger active regulatory efforts, whereas positive emotions are seen as inherently beneficial and less in need of regulation (Ford & Gross, 2019). The particularly strong distinction observed between positive and negative usefulness in the present study may indicate a salient cultural tendency among Portuguese adults to value the adaptive role of positive emotional experiences.

These empirical results can be interpreted through Ford and Gross's (2018, 2019) theoretical framework. Ford and Gross propose two superordinate emotion beliefs: the usefulness and controllability. Each can also operate at a more specific subordinate level, including distinctions across emotional valence.

In this framework, the four EBQ-P subscales represent valence-specific subordinate beliefs nested within broader superordinate beliefs. Emotion beliefs are theorised to guide each stage of Gross's extended process model of emotion regulation, namely identification, selection, implementation, and monitoring, by shaping whether people view emotions as meaningful, manageable, and worth regulating (Ford & Gross, 2019; Ford et al., 2023). Believing that negative emotions are controllable may promote adaptive regulation strategies such as reappraisal, whereas believing emotions to be uncontrollable is linked to increased avoidance and suppression and to poorer mental health outcomes (Ford & Gross, 2019; Kneeland et al., 2016). Similarly, believing emotions, especially negative ones, to be useless can heighten the desire to eliminate or avoid emotion, with potential long-term costs for psychological functioning (Ford & Gross, 2019; Ford et al., 2023).

Taken together, the findings demonstrate that the EBQ-P is a reliable and valid instrument for assessing emotion beliefs in the Portuguese context. The emergence of a valence-specific four-factor structure converges with most recent international validations and supports a differentiated representation of emotion beliefs across cultures. By integrating a rigorous EFA and CFA strategy with a theoretically grounded model, this study clarifies the latent structure of the EBQ and underscores the relevance of examining beliefs about the controllability and usefulness of different types of emotions.

### Limitations and Future Directions

Although this study provides initial evidence for the structural validity and internal consistency of the Portuguese adaptation of the EBQ, there are some limitations that should be considered when interpreting the findings.

First, the sample consisted of Portuguese adults recruited through online convenience procedures and was strongly skewed toward women (81.5% female). Similar sampling constraints are reported in other EBQ validations, which frequently rely on student or community convenience samples and often overrepresent younger and female participants (e.g., Kashimura et al., 2023; Larionow et al., 2024; Raanes et al., 2024). This limits the generalisability of the results to the wider Portuguese population and restricts the capacity to test measurement invariance across demographic groups. Future research should aim to replicate these findings using more diverse and gender-balanced samples, ideally with probability-based or stratified recruitment strategies, and formally examine invariance across gender, age, education, and region.

Second, although the study targeted adults from the general population, no diagnostic or treatment information was collected. Consequently, it is not possible to determine how many participants might meet criteria for a mental disorder, and the applicability of the EBQ-P to clinical populations remains uncertain. Other adaptations likewise emphasise the need to extend validation to clinical groups and to test invariance across clinical and non-clinical samples (e.g., Larionow et al., 2024; Rogier et al., 2023). Future studies in the Portuguese context should therefore examine the EBQ-P in clinical settings (e.g., mood, anxiety, or eating disorders) to clarify whether mean levels and the factor structure of emotion beliefs differ across diagnostic categories and whether EBQ-P scores predict treatment response or relapse.

Third, as in most existing research, the present study employed a cross-sectional, self-report design. This precludes conclusions about the temporal stability or causal pathways between emotion beliefs, emotion regulation, and mental health outcomes. Longitudinal designs and test-retest assessments should be used in future work, to determine whether emotion beliefs function as stable traits or are subject to contextual or developmental changes.

Fourth, emotion beliefs were assessed only with self-report, and those beliefs may not always be fully explicit or consciously accessible. Theoretical accounts of emotion beliefs and the extended process model of emotion regulation suggest that some beliefs may be automatic or only partially accessible to conscious reflection (Ford & Gross, 2019). Combining the EBQ-P with behavioural tasks, experimental manipulations, or implicit measures may capture non-conscious aspects of these beliefs and provide a more complete picture of how they function as antecedents of regulation processes. This limitation is one that we intend to address in our next studies, trying to assess emotion beliefs creating implicit measures, as no measure still exists, for the best of our knowledge.

Finally, although the EBQ-P provides a theoretically grounded measure of emotion beliefs, it only assesses beliefs at the level of emotional valence (i.e., beliefs about positive vs. negative emotions in general). However, more recent research suggests that individuals may have different beliefs depending on the specific emotion (e.g., sadness), rather than valence category alone (e.g., negative). For instance, regarding beliefs about the usefulness of emotions, Gutentag et al. (2022) found that, in general, people consider some negative emotions (e.g., sadness) to be more useful than others (e.g., fear). Our results, like those of Becerra et al. (2020), show that participants viewed negative emotions as more controllable and positive emotions as more useful. However, these broad contrasts may conceal important nuances at the

level of discrete emotions. Future work in Portugal could therefore extend the EBQ-P by developing emotion-specific subscales (e.g., for sadness, anger, fear, enthusiasm) and examining whether such beliefs provide incremental prediction of regulation strategies and clinical outcomes beyond valence-based beliefs.

In summary, the present study lays a foundation for the use of the EBQ-P in the Portuguese context by establishing its factorial validity and internal reliability. Nonetheless, further work is required. As interest grows in understanding how emotions contribute to adaptive and maladaptive functioning, the EBQ-P, and future refinements that incorporate clinical samples, longitudinal designs, indirect measures, and emotion-specific scales, promises to be a valuable tool for both research and applied psychological practice in Portuguese populations.

## Conclusion

The present study translated, adapted, and psychometrically validated the Emotion Beliefs Questionnaire for the Portuguese population, providing evidence for a valence-specific, four-factor structure that differentiates beliefs about the controllability and usefulness of positive and negative emotions. Using a sequential EFA-CFA strategy and following ITC guidelines for test adaptation, we showed that this structure offers good fit, satisfactory internal consistency for three subscales and acceptable reliability for Positive Usefulness, and coherent associations between factors and mean-level comparisons. In doing so, the EBQ-P joins the growing set of international adaptations that support a differentiated representation of emotion beliefs, while also clarifying the latent structure of the measure in a new linguistic and cultural context.

Beyond its psychometric contribution, the EBQ-P provides a theoretically grounded tool for examining how emotion beliefs function within Ford and Gross's broader framework, in which beliefs about the controllability and value of emotions guide downstream emotion-regulation choices and, ultimately, psychological adjustment. By enabling the assessment of beliefs about positive and negative emotions separately, the EBQ-P can help clarify why some individuals are more willing or motivated to regulate certain emotions, how these beliefs relate to adaptive and maladaptive regulation strategies, and how they contribute to mental health and well-being in Portuguese populations. As future research extends this work to clinical samples, longitudinal designs, indirect measures, and emotion-specific belief scales, the EBQ-P and its refinements are well-positioned to inform both basic research on emotion and applied efforts to design interventions that explicitly target dysfunctional beliefs about emotions.

## SUPPLEMENTARY MATERIAL

The anonymised dataset, EBQ-P items, and analysis scripts are available at: [https://osf.io/dw7ch/overview?view\\_only=351cbb5ed3b043079a3b2a11f1c979b2](https://osf.io/dw7ch/overview?view_only=351cbb5ed3b043079a3b2a11f1c979b2)

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