



How much emotional attention is appropriate? The influence of emotional intelligence and subjective well-being on adolescents' stress

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Abstract

Emotional intelligence and subjective well-being may contribute to preventing perceived and physiological stress in adolescents. To provide an overall picture of the relations of emotional intelligence and well-being, both the traditional monotonic effects and the non-monotonic effects of emotional attention on well-being were explored in relation to stress prediction. The purpose was to develop an accurate understanding of the different emotional conditions and states of well-being that may be associated with adolescents' stress. The participants included 132 adolescents (*mean* = 12.73 years, *standard deviation* = 0.72, 51.5% girls) who completed the Trait Meta-Mood Scale-24, the Satisfaction With Life Scale, the Scale of Positive and Negative Experiences, and the Perceived Stress Scale-4. Hair samples were collected to assess physiological stress. Emotional intelligence and well-being explained between 36% and 39% of the variance in perceived and physiological stress. Emotional attention seems to operate in the same way regardless of its conceptualisation as monotonic or non-monotonic. In general, decreased attention and increased clarity and well-being should be the aim of adolescent interventions to achieve better health.

Keywords Emotional intelligence · Subjective well-being · Perceived stress · Hair cortisol concentrations · Stress typologies · Adolescence

Emotional Intelligence (EI), understood as a trait, has traditionally been associated to positive outcomes, such as psychological adjustment (De la Barrera et al., 2019;

Petrides et al., 2016) and well-being (Di Fabio & Kenny, 2016), and it is negatively related to negative outcomes, such as stress (Cejudo et al., 2018). Despite the positive relationship of trait EI with health variables, it is necessary to take into consideration the different associations of each trait EI dimension (clarity, repair and attention) (Martínez-Marín & Martínez, 2019). There seems to be a clear relationship of clarity and repair with positive outcomes. For instance, clarity is a positive predictor of life satisfaction and positive affect and is a negative predictor of negative affect (Prado-Gascó et al., 2018). Similarly, a positive relationship between repair and life satisfaction has been found (Extremera et al., 2009). In relation to stress, clarity and repair have consistently been associated with fewer somatic complaints and lower perceived stress (Jellesma et al., 2011). However, the results for the dimension of attention are mixed. Some studies show that attention is related to certain negative outcomes, including higher levels of perceived and physiological stress (Villanueva et al., 2017), and negative affect and lower levels of life satisfaction (Extremera et al., 2009). Other studies have found no relationship between attention and well-being (Rey et al., 2011).

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The vast majority of existing theory and research assumes that positive traits and emotions have monotonic effects on well-being (the more developed, the better) (Schwartz & Sharpe, 2006). Nevertheless, from Aristoteles' point of view, the effects on well-being should be non-monotonic, taking the shape of an inverted U; thus, some positive phenomena, such as happiness and success, reach inflection points whereafter their effects may become negative (Grant & Schwartz, 2011). This insight has important implications for psychology, as it may offer a more accurate and realistic picture of the situation. To our knowledge, no studies have included analyses comparing these inverted-U-shaped effects to monotonic effects.

In accordance with Aristoteles' assumption, Davis and Nichols (2016) noted the possibility of the existence of "optimal" levels of EI. In this sense, they stated that some negative effects are observed to operate across multiple contexts, and they called these effects "the dark side" of the EI construct. That is, excessive attention to (negative) emotions coupled with a lack of competency to repair these emotional states results in greater physiological stress. These authors suggest that "a balance between EI facets is optimal for adaptation" (p. 8). Following the theoretical line of Salovey et al. (1995), high EI should be composed of high emotional clarity and high emotional repair but moderate emotional attention. Moreover, there is some empirical evidence of transversal associations of moderate attention and greater clarity and repair with better psychological adjustment (Salovey et al., 2002).

This non-monotonic point of view has scarcely been addressed in the field of EI. Furthermore, when this point of view has been specifically addressed, non-significant effects have been found. For instance, Guerra-Bustamante et al. (2019) found no significant association between the levels of emotional attention and happiness in adolescents when attention to emotions was classified as low, adequate and excessive (inverted U effects). Although further studies are needed, low and high levels of attention may not be similar in their maladaptive consequences, making it necessary to disentangle the effects of both levels. This necessity is supported by the conceptualisation of attention as an emotional spiral with increasing ruminant, negative and catastrophic thoughts (Martínez-Marín & Martínez, 2019), under which high attention (compared to low attention) is especially harmful for well-being.

Despite this controversy, the different conceptualisations of emotional attention have not been tested. Therefore, in this study, three different conceptualisations of emotional attention were analysed in relation to stress: a monotonic effect (the more developed, the better), a non-monotonic effect (an inverted U-shaped effect, such that both high and low attention are equally harmful), and a ruminant effect (high attention, especially harmful). Thus, the main purpose of this research was to answer the question of how much emotional attention is optimal.

Regarding subjective well-being (SWB), another personal strength that has been related to the avoidance of health problems (Lopez-Zafra et al., 2019), the monotonic approach has been the normative one. Suldo and Huebner (2006) observed that, compared to average and low life satisfaction, extremely high levels of life satisfaction were related to the highest levels of social support and self-efficacy as well as the lowest number of emotional and behavioural problems. Although studies show that well-being is inversely related to perceived stress (Zheng et al., 2019), little research has been carried out to analyse SWB as a protective factor against stress.

A decade ago, a comprehensive literature review by Proctor et al. (2009) suggested that the cognitive dimension of SWB (life satisfaction) could act as a buffer against stress and the development of psychopathology based on the results of a longitudinal study carried out by Suldo and Huebner (2004). More recently, a study conducted by Soto (2015) observed that personality traits prospectively predict changes in well-being but also that the level of well-being is capable of predicting personality change. These findings support the hypothesis that well-being could be considered a variable that influences other variables in addition to being an outcome variable.

Therefore, the main contributions of this study include testing different conceptualisations of emotional attention to determine its optimal level, using SWB as a predictor of stress, and assessing stress through subjective and objective measures, given that some studies suggest that they capture different dimensions of stress (Villanueva et al., 2017). The inconsistent or negative relation between different types of stress (physiological and perceived) is worthy of deep analysis, as some authors suggest that their relationship may vary according to hair cortisol concentration level (HCC) (Ling et al., 2020). Hence, in this study, we included four categories of stress levels and types to analyse their potentially varying behaviours. Understanding which elements are associated with the reduction of each stress typology and their mechanism of action is essential to developing more personalised interventions that focus on the development of strengths, such as EI and SWB (e.g., Whitehead et al., 2019). It is especially important to examine these phenomena in adolescents, as generalization is difficult given that most study samples are restricted to university students (Lea et al., 2019; Makhubela, 2020).

Thus, our aim was to develop an accurate understanding of the different emotional and well-being conditions that may be related to adolescents' stress. The following hypotheses were posited. First, it is expected that both trait EI and SWB will be valid predictors of adolescents' stress. In regard to the specific question of how much emotional attention is optimal, it is expected that a non-monotonic effect of attention on stress will be observed.

Method

Participants

The participants were 132 Spanish adolescents between 12 and 15 years old ($M = 12.73$, $SD = 0.72$, 51.5% girls) from 4 public, subsidized and private schools in the Valencian region, located across a range of working to upper-middle-class urban areas. Specifically, 48.5% of the adolescents were from the 1st course of compulsory secondary education (46.9% girls), and 51.5% were from the 2nd course (55.9% girls). The inclusion criteria were healthy adolescents aged 12 to 15 years enrolled in schools in the Valencian region and whose parents had provided informed consent. There were three principal exclusion criteria: the presence of any disease that would influence glucocorticoid levels (especially Addison's disease and Cushing's disease), the presence of any psychiatric illness diagnosis and the receipt of any pharmacological treatment that could influence cortisol levels. All this information was extracted from a short survey prior to assessment.

Instruments

EI was evaluated using the Spanish version of the Trait Meta-Mood Scale-24 (TMMS-24, Salovey et al., 1995; validated by Fernandez-Berrocal & Extremera, 2004). This scale is composed of 24 items that evaluate three factors: attention, the tendency to perceive and think about one's own feelings and moods (e.g., "I often think about my feelings"); clarity, the ability to understand and comprehend one's own emotional states (e.g., "I often realize my feelings in different situations"); and repair, one's beliefs about one's own ability to regulate emotions (e.g., "I have lots of energy when I feel happy"). The adolescents responded using a five-point Likert scale (1 = *no agreement* to 5 = *complete agreement*). The internal consistency values of the attention ($\alpha = .85$), clarity ($\alpha = .84$), and repair ($\alpha = .76$) subscales were adequate in our sample. A categorization of emotional competencies was carried out following the correction proposed by Fernández-Berrocal et al. (1998). The following scores were considered low: attention (girls: ≤ 24 , boys: ≤ 21), clarity (girls: ≤ 23 , boys: ≤ 25), and repair (girls: ≤ 23 , boys: ≤ 23). The following scores were considered moderate: attention (girls: 25–35, boys: 22–32), clarity (girls: 24–34, boys: 26–35), and repair (girls: 24–34, boys: 24–35). Finally, the following scores were considered high: attention (girls: ≥ 36 , boys: ≥ 33), clarity (girls: ≥ 35 , boys: ≥ 36), and repair (girls: ≥ 35 , boys: ≥ 36).

SWB was evaluated in the cognitive dimension and in the affective dimension (Burger & Samuel, 2017; Diener, 1984; Stavrova, 2019). For the cognitive dimension, the assessment involved the Satisfaction With Life Scale (SWLS, Diener

et al., 1985; validated by Atienza et al., 2000). This scale is composed of five items with five possible responses (1 = *strongly disagree* to 5 = *strongly agree*) and evaluates how satisfied people are with their lives (e.g., "If I could live my life over, I would change almost nothing"). The internal consistency ($\alpha = .81$) in our sample was adequate. For the emotional dimension, subjective well-being was evaluated with the Scale of Positive and Negative Experiences (SPANE, Diener et al., 2010; validated by Prado-Gascó et al., 2020). Participants rate how often they have experienced positive and negative feelings during the past 4 weeks. The scale consists of 12 items with five possible answers (1 = *never* to 5 = *always*). Six items refer to positive feelings (e.g., pleasant feelings) and six to negative feelings (e.g., unpleasant feelings). The measure can be used to derive an overall affect balance score: The negative feelings score is subtracted from the positive feelings score, and the resultant difference score is considered the affect balance. The internal consistency for positive affect ($\alpha = .84$) and negative affect ($\alpha = .85$) was adequate in this sample.

Perceived stress was evaluated using the Perceived Stress Scale 4 (PSS-4; Cohen et al., 1983; Herrero & Meneses, 2006), a short version of the Perceived Stress Scale (PSS; Cohen & Williamson, 1988). The PSS-4 is a self-report scale made up of four items, and it is especially suitable for adolescents, as it facilitates very rapid administration. The scale assesses the extent to which the subject assesses his or her life over the past month as unpredictable, uncontrollable and overloaded. The response format consists of a 4-point Likert scale (1 = *never* to 4 = *always*). A higher score indicates a higher level of perceived stress. Previous research has shown that this scale is reliable and valid (Herrero & Meneses, 2006), as was also the case in this study ($\alpha = .70$).

Stress was also measured by hair cortisol concentrations (HCC), which were extracted from the hair of the participants. A 2 cm strand of hair was collected from each adolescent (25–40 mg, approximately 150 locks of hair); the hair was cut from the back of the head and as close to the scalp as possible. The samples were prepared to achieve the most efficient possible extraction. Therefore, the samples were cut with fine scissors one by one until they almost formed a powder. In this way, the maximum extraction of cortisol in the samples was achieved when they came into contact with methanol. The strands of hair were attached with adhesive tape to a paper form, with the scalp end labelled, and stored in individual sets. Subsequently, the samples were mixed with alcohol and stirred at medium intensity for 36 h at 37.7 °C degrees. Then, methanol was extracted from each sample (with a 1000 μ l pipette) and transferred to an Eppendorf tube. The alcohol was evaporated with an evaporator that used a nitrogen flow to optimize the process, and samples were deposited on a hot plate to promote further evaporation. Cortisol was measured using the Salivary Cortisol ELISA SLV-2930 kit (DRG International, Inc., USA)

following solubilisation of the granule obtained after the evaporation of the methanol with phosphate buffered saline (PBS).

Procedure

This study was authorised by the ethics committee of the University of Valencia and School Board (code H1385330676977). A convenience sample was obtained from 4 schools in the Valencian region. During an information meeting, parents provided informed consent for the adolescents to participate in the research. The adolescents completed the questionnaires collectively during their usual school hours. When the adolescents finished the questionnaires, hair collection was carried out. The same two researchers were always present during the evaluation. All participants who did not answer 100% of the questionnaire items were removed from the study.

In this study, three different conceptualisations of emotional attention were analysed in relation to stress: a monotonic effect (the more developed, the better), a non-monotonic effect (inverted U-shaped effect), and a ruminant effect (high attention, especially harmful). In the traditional conceptualisation of attention (monotonic effect), more emotional attention (1 = *low attention*, 2 = *moderate attention*, 3 = *high attention*) is better. Following other studies (Davis & Nichols, 2016; Fernández-Berrocal et al., 1998; Guerra-Bustamante et al., 2019), attention can also be interpreted in the form of an inverted “U” (non-monotonic effect). In an inverted U-shaped conceptualisation, low and high levels of attention are not optimal, whereas moderate emotional attention is optimal (0 = *low or high attention*, 1 = *moderate attention*). Finally, recent research suggests that high levels of attention can be understood as a form of rumination (e.g., Martínez-Marín & Martínez, 2019). Therefore, having high attention is considered the most damaging extreme, followed by having low attention, and the optimum is moderate emotional attention (1 = *high attention*, 2 = *low attention*, 3 = *moderate attention*).

Perceived and physiological stress were analysed as both continuous and categorical variables. For the categorical variable treatment, we created four typologies by combining two indicators (perceived stress and physiological stress) with two different levels (low and high) (e.g., Amara et al., 2015). Adolescents scoring in or below the 40th percentile were classified as having low levels of stress, while those scoring in or above the 60th percentile were classified as having high levels of stress. This classification was made to remove mean values and to polarise low and high levels of stress. In this way, four typologies were formed. Typology I (“Physiologically and psychologically stressed adolescents”) included adolescents with high levels of cortisol who also felt stressed (high physiological stress and high perceived stress). Typology II (“Physiologically stressed adolescents”) included adolescents

with high levels of cortisol who did not feel stressed (high physiological stress and low perceived stress). Typology III (“Psychologically stressed adolescents”) included adolescents with low levels of cortisol who nevertheless felt stressed (low physiological stress and high perceived stress). Finally, Typology IV (“Unstressed adolescents”) included adolescents who did not have high levels of cortisol and did not feel stressed (low physiological stress and low perceived stress).

Data Analysis

This study adopted a correlational, cross-sectional design. The normality and homoscedasticity were analysed. Concerning statistical analysis, first, hierarchical linear regressions were carried out for the prediction of perceived stress and physiological stress as continuous variables. EI was introduced in the first step, and SWB was introduced in the second step. Regressions for each dependent variable were performed in three different ways depending on the categorization of attention: traditional attention, inverted U-shaped attention or attention as rumination.

Second, logistic regressions were carried out for the prediction of the four types of stress: (1) Physiologically and psychologically stressed adolescents, (2) Physiologically stressed adolescents, (3) Psychologically stressed adolescents, and (4) Unstressed adolescents. In the first step, EI was introduced, and in the second step, SWB was introduced. Three different logistic regressions were carried out for each of the typologies according to the categorization of attention: traditional attention, inverted U-shaped attention and attention as rumination.

Finally, logistic regressions were carried out to determine the factors relevant to changes from a stress typology (Physiologically and psychologically stressed adolescents, Physiologically stressed adolescents, or Psychologically stressed adolescents) to the non-stress typology (Unstressed adolescents). In this way, we could observe the conditions required to decrease all types of stress in adolescents. The regressions were performed with traditional attention and inverted U-shaped attention, as both conceptualisations of attention had the highest predictive values in previous analyses.

Results

First, the descriptive statistics and bivariate correlations for emotional intelligence, subjective well-being and stress were carried out (Table 1). Then, the results of the analysis in which perceived stress and physiological stress were evaluated as continuous variables are shown (Table 2). Attention was a strong predictor (positive sign) of both types of stress, but especially of physiological stress, in two of the conceptualisations of attention (traditional and inverted-U). In contrast, clarity was

Table 1 Descriptive statistics and bivariate correlations for emotional intelligence, subjective well-being and stress

	<i>M (SD)</i>	<i>Min</i>	<i>Max</i>	Attention	Clarity	Repair	Life satisfaction	Affect balance	Perceived stress	Physiological stress
Attention	23.31 (6.48)	12.00	39.00	–						
Clarity	24.39 (6.51)	8.00	38.00	.36***	–					
Repair	26.89 (5.89)	11.00	40.00	.23**	.36***	–				
Life satisfaction	26.45 (5.85)	10.00	35.00	.10	.35***	.40***	–			
Affect balance	9.47 (7.89)	–11.00	24.00	.01	.33***	.47***	.56***	–		
Perceived stress	8.34 (2.18)	4.00	14.00	.07	–.34***	–.23**	–.56***	–.48***	–	
Physiological stress	3.30 (2.06)	0.07	9.54	.19*	–.03	.04	.10	–.08	.12	–

Note. *M* = Mean. *SD* = Standard deviation. *Min* = minimum. *Max* = maximum. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

a predictor of perceived stress (negative sign) but not of physiological stress, regardless of the type of attention conceptualisation considered. In this first step, the models explained between 6% and 9% of the variance in perceived stress. Although clarity and attention continued to be significant predictors when the subjective well-being variables were added to the regression model, the predictive power dramatically increased (the models explained between 36% and 39% of the variance), especially due to the life satisfaction variable and only in the case of perceived stress. The behaviour of the subjective well-being variables was similar for the three conceptualisations of attention.

Second, descriptive statistics were provided (Table 3) and the predictive capacity of the emotional competences and subjective well-being for the four stress typologies were analysed (Tables 4 and 5). Among Physiologically and psychologically stressed adolescents, although the models were not statistically significant, clarity appeared to be a negative predictor (Table 4). There was a slight increase in predictive capacity when subjective well-being was included in the model. Likewise, it seems that the three different conceptualisations of attention yielded similar results.

Among Physiologically stressed adolescents, clarity was again the strongest emotional predictor (but this time with a positive sign) and functioned similarly in the three conceptualisations of attention, although the model was only significant for traditional attention. By including subjective well-being, the predictive power of the model increased, and the conceptualisation of attention lost relevance, as all three models were similarly significant. Higher scores in the cognitive dimension of subjective well-being (life satisfaction) seemed to best predict the Physiologically stressed adolescent typology (Table 4).

Among Psychologically stressed adolescents, none of the explanatory models were statistically significant. Nevertheless, the results suggested that, again, life satisfaction was related to membership in a stress category: Adolescents with lower levels of life satisfaction were more likely to belong to the typology characterized by low levels of physiological stress and high

levels of perceived stress, regardless of how attention was conceptualised (Table 5).

In Unstressed adolescents, attention seemed to be the dimension of emotional intelligence most related to stress, regardless of its categorization (Table 5). When subjective well-being was included, the explanatory capacity of the model increased. In this sense, adolescents with lower scores on emotional attention and greater subjective well-being were more likely to belong to the stress-free category. In terms of the categorization of attention, the results were similar across all three conceptualisations (traditional attention, inverted U-shaped attention, and attention as rumination). However, the models in which attention was understood in a traditional way or in the form of an inverted U seemed to have the greatest predictive capacity.

Finally, we evaluated which emotional and well-being variables contributed to changing from a stress category (Physiologically and psychologically stressed adolescents, Physiologically stressed adolescents, or Psychologically stressed adolescents) to a stress-free category (Unstressed adolescents) (Table 6). Previous results have suggested that traditional attention and inverted U-shaped attention appear to present the highest predictive values in models. Therefore, analyses were carried out with attention understood only in these two ways. For all three stress typologies, attention seemed to be the most influential emotional predictor of a change to the non-stress typology. That is, decreased scores for this variable may increase the likelihood of belonging to the non-stress typology. These results were observed with both traditional attention and inverted U-shaped attention. In the first step, the models explained between 15% and 25% of the variance. When subjective well-being was included in the prediction (second step), the explained variance increased (models explained between 29% and 42% of the variance). In this sense, the results showed that attention has the greatest weight in predicting a change from a stressed typology to the non-stressed typology, while life satisfaction seemed to especially relate to the change from the Psychologically stressed typology to the non-stressed category.

Physiological stress

Note. VAR = variables; ATT = attention; CLA = clarity; REP = repair; SWL = satisfaction with life; AFB = affect balance. R^2 = change in R^2 ; ΔR^2 = adjusted R^2 ; $\triangle R^2$ = change in R^2 ; β = regression coefficient. 95% CI = 95% confidence interval. TA = Traditional attention. AIU = Attention as inverted U. AR = Attention as rumination

Note. VAR = variables; ATT = attention; CLA = clarity; REP = repair; SWL = satisfaction with life; AFB = affect balance. R^2 = change in R^2 ; ΔR^2 = change in R^2 ; $\text{adjusted } R^2$ = adjusted R^2 ; $\Delta \text{adjusted } R^2$ = change in adjusted R^2 ; β = regression coefficient. 95% CI = 95% confidence interval. TA = Traditional attention. AIU = Attention as inverted U. AR = Attention as rumination

$p \leq .05$. $p \leq .01$. $p \leq .001$

Table 3 Descriptive statistics for the four stress typologies

	<i>n</i> (%)	Physiological stress	Perceived stress	Attention <i>M</i> (<i>SD</i>)	Clarity <i>M</i> (<i>SD</i>)	Repair <i>M</i> (<i>SD</i>)	Life satisfaction <i>M</i> (<i>SD</i>)	Affect balance <i>M</i> (<i>SD</i>)
Typology I: Physiologically and psychologically stressed adolescents	45 (30.09)	High	High	23.58 (6.58)	22.47 (6.69)	26.09 (5.85)	25.27 (5.84)	7.32 (8.41)
Typology II: Physiologically stressed adolescents	22 (16.67)	High	Low	25.95 (5.53)	27.68 (5.01)	29.18 (4.57)	29.45 (4.02)	12.23 (7.44)
Typology III: Psychologically stressed adolescents	38 (28.79)	Low	High	23.00 (6.72)	24.08 (7.04)	25.74 (6.27)	24.24 (6.54)	7.50 (7.75)
Typology IV: Unstressed adolescents	27 (20.45)	Low	Low	21.15 (6.16)	25.37 (5.50)	27.96 (4.69)	29.11 (3.99)	13.51 (5.20)

Note. High = Adolescents who scored in or above the 60th percentile. Low = Adolescents who scored in or below the 40th percentile. *M* = Mean. *SD* = Standard deviation

Discussion

The purpose of the present study was to develop an accurate understanding of the different emotional and well-being conditions that may be related to adolescents' stress. Supporting the first hypothesis, both trait EI and subjective well-being were valid predictors of adolescents' stress. The predictive value of the model was strong when subjective well-being was included, therefore supporting the role of this variable as a predictor variable rather than just as a mediating or outcome variable (Huebner et al., 2004; Soto, 2015). The results suggest that both factors are related to stress, with a higher impact on perceived stress than on physiological stress. The fact that the relation was stronger in the case of subjective than objective stress is not strange if we take into account the subjective nature of the predictor variables. In line with previous research, this difference may indicate the existence of different dimensions of stress (psychological and physiological), as there are sometimes no clear correlations between them (e.g., Lea et al., 2019; Villanueva et al., 2017) or the relationships are negative (Ling et al., 2020). Therefore, these results support the need to include both types of stress measurements in the same study.

On the one hand, perceived stress seems to be related to two dimensions of EI—attention and clarity—and to both dimensions of subjective well-being—life satisfaction and affect balance. In this sense, adolescents who have a greater ability to understand their emotional states, pay less attention to their emotions, are more satisfied with their life and feel more pleasant and fewer unpleasant emotions may perceive themselves as less stressed. On the other hand, physiological stress seems to be associated only with one of the dimensions of EI—attention—supporting previous studies that have found that the relationship between EI and self-reported stress is generally found more often than that between EI and physiological stress (Lea et al., 2019). This relation may be explained by the fact that an easy and explicit way to monitor emotions is through physiological signals (heart beat increase, blushing, butterflies in one's stomach and so on). In this sense, the dimension of attention can more easily capture the subtle nuances of physiological stress than the other emotional dimensions. Not in vain, some studies consider attention to emotions to be a disposition rather than a skill, as it reflects the degree to which subjects attend to their heart rate or to other proprioceptive stimuli (e.g., Palmieri et al., 2009).

Overall, these results suggest that EI (optimal levels of attention and high clarity) and subjective well-being (high life satisfaction and positive affect balance) may be protective factors against perceived stress during adolescence. Likewise, high emotional attention may not be adequate during this life period due to its association with perceived stress as well as physiological stress.

Table 4 Logistic regressions for Physiologically and psychologically stressed adolescents and Physiologically stressed adolescents

VAR	Typology I: Physiologically and psychologically stressed adolescents High physiological stress and high perceived stress ($n=45$)						Typology II: Physiologically stressed adolescents High physiological stress and low perceived stress ($n=22$)					
	B	95% CI	TA	SE	Wald B	AR 95% CI	SE	Wald B	TA 95% CI	SE	Wald B	AR 95% CI
Step 1												
ATT	.40	[0.43, 5.15]	.63	0.40	.45	[0.74, 3.32]	.39	1.35	.73	[0.58, 7.35]	.65	1.26
CLA	-1.54	[0.05, 0.88]	.72	4.56*	-1.51	[0.06, 0.90]	.71	4.46*	-1.47	[0.06, 0.93]	.71	4.24*
REP	-.37	[0.18, 2.66]	-.69	0.28	-.36	[0.18, 2.68]	.69	0.27	-.32	[0.19, 2.79]	.69	0.21
NR ²				.06				.07				.07
Step 2												
ATT	.34	[0.40, 4.99]	.65	0.28	.58	[0.81, 3.91]	.40	2.08	1.02	[0.74, 10.42]	.68	2.28
CLA	-1.38	[0.61, 1.05]	.73	3.60	-1.33	[0.06, 1.09]	.72	3.40	-1.26	[0.07, 1.16]	.72	3.06
REP	.19	[0.28, 5.32]	.76	0.07	.27	[0.30, 5.74]	.75	0.13	.36	[0.32, 6.36]	.76	0.22
SWL	-.02	[0.91, 1.06]	.04	0.30	-.03	[0.90, 1.05]	.03	0.50	-.03	[0.90, 1.05]	.04	0.47
AFB	-.04	[0.91, 1.02]	.03	1.48	-.04	[0.90, 1.02]	.04	1.81	-.05	[0.90, 1.02]	.03	2.11
NR ²				.09				.11				.11
												.18**
												.16*
												.15*

Note. VAR = variables; ATT = attention; CLA = clarity; REP = repair; SWL = satisfaction with life; AFB = affect balance. 95% CI = 95% confidence interval. B = regression coefficient. SE = Standard Error. NR² = Nagelkerke R². TA = Traditional attention. AIU = Attention as inverted U. AR = Attention as rumination

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

Table 5 Logistic regressions for Psychologically stressed adolescents and Unstressed adolescents

VAR	Typology III: Psychologically stressed adolescents Low physiological stress and high perceived stress ($n=38$)						Typology IV: Unstressed adolescents Low physiological stress and low perceived stress ($n=27$)					
	TA	95% IC	SE	Wald	AIU	AR	TA	95% IC	SE	Wald	AIU	AR
Step 1												
ATT	.31	[0.39, 4.80]	.64	0.23	.06	[0.49, 2.29]	.39	0.02	.03	[0.28, 3.39]	.64	0.00
CLA	-.09	[0.12, 3.58]	.70	0.02	-.05	[0.25, 3.68]	.69	0.01	-.05	[0.25, 3.69]	.69	0.01
REP	-.69	[0.12, 2.09]	.73	0.90	-.65	[0.13, 2.16]	.72	0.80	-.64	[0.13, 2.17]	.72	0.79
NR ²			.01			.01			.01			
Step 2												
ATT	.41	[0.41, 5.52]	.66	0.38	.27	[0.58, 2.94]	.41	0.41	.32	[0.37, 5.21]	.68	0.23
CLA	.16	[0.29, 4.81]	.72	0.05	.22	[0.31, 5.03]	.71	0.10	.24	[0.32, 5.15]	.71	0.11
REP	-.01	[0.21, 4.74]	.80	0.00	.08	[0.23, 5.10]	.79	0.01	.11	[0.23, 5.29]	.80	0.02
SWL	-.09	[0.84, 1.00]	.04	4.28*	-.09	[0.84, 1.00]	.04	4.32*	-.09	[0.84, 1.00]	.04	4.21*
AFB	-.01	[0.93, 1.06]	.03	0.03	-.01	[0.93, 1.05]	.03	0.09	-.01	[0.93, 1.05]	.03	0.11
NR ²			.08			.08			.08			

Note. VAR = variables; ATT = attention; CLA = clarity; REP = repair; SWL = satisfaction with life; AFB = affect balance. 95% IC = 95% confidence interval. B = regression coefficient. SE = Standard Error. NR² = Nagelkerke R². TA = Traditional attention. AIU = Attention as inverted U. AR = Attention as rumination

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

Table 6 Logistic regressions for the change from the stress typologies to the non-stress typology

Variables	Typology I→Unstressed adolescents						Typology II→Unstressed adolescents						Typology III→Unstressed adolescents					
	TA			AIU			TA			AIU			TA			AIU		
	B	SE	Wald	B	SE	Wald	B	SE	Wald	B	SE	Wald	B	SE	Wald	B	SE	Wald
Step 1																		
Attention	−2.59	1.10	5.53*	−1.64	.63	6.73**	−2.93	1.15	6.49**	−1.61	.67	5.76*	−2.35	1.05	5.00*	−1.16	.62	3.57
Clarity	1.66	.95	3.07	1.66	.96	3.03	−1.17	1.32	.78	−1.67	1.32	1.62	.95	1.06	.81	.65	1.02	.41
Repair	1.31	.97	1.84	1.34	1.00	1.82	.14	1.46	.01	−.09	1.48	.00	1.46	1.08	1.83	1.04	1.01	1.05
NR ²			.19*			.21**			.25*			.21*			.15*			.11
Step 2																		
Attention	−3.03	1.23	6.06*	−1.91	.71	7.32**	−3.24	1.22	7.10**	−1.71	.69	6.11	−3.43	1.38	6.20**	−2.22	.82	7.38**
Clarity	1.55	1.00	2.39	1.61	1.03	2.45	−1.24	1.35	.84	−1.75	1.34	1.70	.37	1.25	.09	.38	1.18	.10
Repair	−.12	1.20	.01	−.03	1.22	.00	−.08	1.57	.00	−.13	1.57	.01	−.03	1.36	.00	−.49	1.26	.15
Life satisfaction	.13	.07	3.46	.13	.07	3.52	−.05	.10	.24	−.06	.09	.45	.16	.07	4.89*	.19	.08	5.62*
Affect balance	.09	.05	3.38	.09	.05	3.19	.08	.06	1.68	.06	.06	1.17	.10	.06	2.80	.10	.06	3.14
NR ²			.37***			.39***			.29*			.24			.40***			.42***

Note. Typology I = Physiologically and psychologically stressed adolescents. Typology II = Physiologically stressed adolescents. Typology III = Psychologically stressed adolescents. TA = Traditional attention. AIU = Attention as inverted U. B = Regression coefficient. SE = Standard error. NR² = Nagelkerke R²

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

Considering the combination of both types of stress, that is, the typologies of stress, the dimension of clarity demonstrated stronger significant relationships with high levels of both types of stress, supporting previous studies (Salovey et al., 1995). If the adolescents had a low capacity to understand their own emotions, they had a higher probability of belonging to the category characterized by high HCC and high perceived stress. However, this must be considered as only one possible interpretation, since the explanatory model was not statistically significant. In the case of Physiologically stressed adolescents, both clarity and life satisfaction were associated factors. Thus, adolescents with a greater ability to understand their emotions and higher satisfaction with life were more likely to belong to this category. By contrast, in Psychologically stressed adolescents, emotional variables did not seem to influence stress, but the cognitive dimension of well-being did. That is, adolescents who were less satisfied with their lives were more likely to belong to this category. However, as with the prediction of Physiologically stressed adolescents, these interpretations have to be taken with extreme caution because the model was not statistically significant. Finally, in Unstressed adolescents, the variables of attention and subjective well-being appeared to be predictors. In this sense, adolescents who paid less attention to their emotions, considered their life more satisfying and experienced more positive than negative emotions, were more likely to belong to this category, free of stress.

Consequently, these findings suggest that paying less attention to emotional states, perceiving life as more satisfying

and experiencing more positive than negative emotions, increase the likelihood of belonging to healthier typologies. When perceived stress is high, the cognitive dimension of well-being becomes important. In this sense, when adolescents consider their life satisfactory, they usually belong to low-perceived-stress categories, whereas if they consider their life to be unsatisfactory, they are more likely to belong to categories characterized by high perceived stress. All of these results support previous studies highlighting the importance of promoting life satisfaction, compared to the remaining indicators, to increase well-being in youth (Proctor et al., 2009). As suggested by Proctor et al. (2018), life satisfaction is not only a protective factor against stress in adolescents, it is also the crucial mechanism through which subjective and psychological well-being are achieved.

Regarding the specific question of how much emotional attention is optimal, a non-monotonic effect of attention on stress was predicted. However, this hypothesis did not seem to be supported by the results of this study. Instead, the results suggested that emotional attention operates in the same way regardless of its conceptualisation as monotonic or non-monotonic. Notwithstanding this finding, it is important to note that the models with traditional attention and inverted U-shaped attention explained more variance than those with attention construed as rumination. Previous research suggests that emotional attention takes the form of an inverted U (Davis & Nichols, 2016; Fernández-Berrocal et al., 1998; Guerra-Bustamante et al., 2019). However, it is not possible to draw a similar conclusion with the data obtained in this study. The

absence of conclusive results may be due to differences in observations. First, some authors have linked the salience of the inverted U effect to the kind of domain in which the emotion is being assessed (Grant & Schwartz, 2011). In this study, there was no specific context that was assessed (academic, health, sports). Rather, the daily situation of adolescents within a particular age range was our focus. Second, the choice of critical stress points could have obscured potential differences. In this sense, it is possible that our operationalization of high levels of stress (above the 60th percentile) was not sufficiently restrictive. In any case, analyses of non-monotonic effects are worth carrying out in future studies, including those focusing on specific contexts with explicit motivations (academic achievement, competition, and so on) and using evidence-based critical stress points.

In summary, this study provides information about the emotional and well-being factors that may promote the transition from stress typologies to a stress-free typology. This study suggests that although there is unanimous support for an association of decreased emotional attention with healthier typologies, we still have to be cautious about the nature of its effect (monotonic, non-monotonic or both). The need to promote the monotonic effects of clarity and life satisfaction in this age range is much clearer. Therefore, this study suggests that decreased emotional attention and increased clarity and subjective well-being, especially life satisfaction, should be objectives of adolescent interventions to achieve better health. In line with positive psychology (Seligman & Csikszentmihalyi, 2000), understanding which strengths influence a reduction in each type of stress and how they do so is essential to developing more personalised interventions.

There are limitations present in this study that need to be noted. First, the sample was incidental, as probability sampling was not carried out, making it difficult to generalize the results obtained. Extending the sample to other Spanish populations is recommended. Second, the consideration of stress cut-off points to decide whether participants belonged to the high and low categories may not have been totally adequate. In future investigations, it will be necessary to determine the critical points of high and low stress for this age range. The procedure used by Guerra-Bustamante et al. (2019) may be appropriate for this objective. Third, gender and age of adolescents were not controlled in the analyses. Taking these two variables into account would be crucial in future studies.

Despite the limitations, this study presents four main contributions. First, the stress protective factors in adolescence were analysed instead of only the risk factors. Second, subjective and objective measures of stress were included, and an analysis of protective factors for both types of stress as well as for each of the typologies was offered. Third, three conceptualisations of emotional attention were tested: traditional attention, inverted U-shaped attention, and attention as rumination. Finally, the results of this research could allow for

the design of more personalised intervention programmes for the prevention of stress by considering the different typologies and the factors of change for each one.

Author's Contribution De la Barrera, Usue: Conceptualization; Data curation; Formal analysis; Writing – original draft; Visualization.

Villanueva, Lidón: Conceptualization; Supervision; Validation; Writing – original draft; Investigation.

Prado-Gascó, Vicente: Supervision; Formal analysis; Methodology; Investigation; Writing – review & editing; Visualization.

Montoya-Castilla, Inmaculada: Data curation; Funding acquisition; Project administration; Resources; Supervision; Writing – review & editing.

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Data Availability The datasets analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical Statement All procedures performed in this study involving participants were in accordance with the ethical standards of the ethics committee of the university (code H1385330676977) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Consent was obtained from the government, schools, parents and the university's ethics commission for all individual participants included in the study.

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

- Amara, N., Landry, R., & Halilem, N. (2015). What can university administrators do to increase the publication and citation scores of their faculty members? *Scientometrics*, 103, 489–530. <https://doi.org/10.1007/s11192-015-1537-2>.
- Atienza, F. L., Pons, D., Balaguer, I., & García-Merita, M. (2000). Psychometric properties of the satisfaction with life scale in adolescents. *Psicothema*, 12(2), 314–319.
- Burger, K., & Samuel, R. (2017). The role of perceived stress and self-efficacy in young people's life satisfaction: A longitudinal study. *Journal of Youth and Adolescence*, 46(1), 78–90. <https://doi.org/10.1007/s10964-016-0608-x>.
- Cejudo, J., Rodrigo-Ruiz, D., López-Delgado, M. L., & Losada, L. (2018). Emotional intelligence and its relationship with levels of social anxiety and stress in adolescents. *International Journal of Environmental Research and Public Health*, 15, 1073. <https://doi.org/10.3390/ijerph15061073>.
- Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the US. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont symposium on applied social psychology* (pp. 31–67). Sage.

- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396. <https://doi.org/10.2307/2136404>.
- Davis, S. K., & Nichols, R. (2016). Does emotional intelligence have a “dark” side? A review of the literature. *Frontiers in Psychology*, 7, 1316. <https://doi.org/10.3389/fpsyg.2016.01316>.
- De la Barrera, U., Villanueva, L., & Prado-Gascó, V. (2019). Emotional and personality predictors that influence the appearance of somatic complaints in children and adults. *Psicothema*, 31(4), 407–413. <https://doi.org/10.7334/psicothema2019.69>.
- Di Fabio, A., & Kenny, M. E. (2016). Promoting well-being: The contribution of emotional intelligence. *Frontiers in Psychology*, 7, 1182. <https://doi.org/10.3389/fpsyg.2016.01182>.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575. <https://doi.org/10.1037/0033-2909.95.3.542>.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97(2), 143–156. <https://doi.org/10.1007/s11205-009-9493-y>.
- Extremuera, N., Durán, A., & Rey, L. (2009). The moderating effect of trait meta-mood and perceived stress on life satisfaction. *Personality and Individual Differences*, 47(2), 116–121. <https://doi.org/10.1016/j.paid.2009.02.007>.
- Fernandez-Berrocal, P., & Extremera, N. (2004). Validity and reliability of the Spanish modified version of the trait meta-mood scale. *Psychological Reports*, 94(3), 751–755. <https://doi.org/10.2466/pr0.94.3.751-755>.
- Fernández-Berrocal, P., Alcaide, R., Domínguez, E., Fernández-McNally, C., Ramos, N., & Ravira, M. (1998). Adaptación al castellano de la escala rasgo de metaconocimiento sobre estados emocionales de Salovey et al.: Datos preliminares [Adaptation to Spanish of the trait meta-mood scale (Salovey et al.): Preliminary data]. In J. Gutiérrez, A. Aguilar, E. M. Aguilar, N. Barrantes-Vidal, & J. E. Obiols (Eds.), *Libro de Actas del V Congreso de Evaluación Psicológica* (pp. 83–84). European Association of Psychological Assessment.
- Grant, A. M., & Schwartz, B. (2011). Too much of a good thing: The challenge and opportunity of the inverted U. *Perspectives on Psychological Science*, 6(1), 61–76. <https://doi.org/10.1177/1745691610393523>.
- Guerra-Bustamante, J., León-Del-Barco, B., Yuste-Tosina, R., López-Ramos, V. M., & Mendo-Lázaro, S. (2019). Emotional intelligence and psychological well-being in adolescents. *International Journal of Environmental Research and Public Health*, 16, 1720. <https://doi.org/10.3390/ijerph16101720>.
- Herrero, J., & Meneses, J. (2006). Short web-based versions of the perceived stress (PSS) and center for epidemiological studies-depression (CESD) scales: A comparison to pencil and paper responses among internet users. *Computers in Human Behavior*, 22(5), 830–846. <https://doi.org/10.1016/j.chb.2004.03.007>.
- Huebner, E. S., Suldo, S. M., Smith, L. C., & McKnight, C. G. (2004). Life satisfaction in children and youth: Empirical foundations and implications for school psychologists. *Psychology in the Schools*, 41(1), 81–93. <https://doi.org/10.1002/pits.10140>.
- Jellesma, F. C., Rieffe, C., Terwogt, M. M., & Westenberg, P. M. (2011). Children’s sense of coherence and trait emotional intelligence: A longitudinal study exploring the development of somatic complaints. *Psychology and Health*, 26(3), 307–320. <https://doi.org/10.1080/08870440903411021>.
- Lea, R. G., Davis, S. K., Mahoney, B., & Qualter, P. (2019). Does emotional intelligence buffer the effects of acute stress? A systematic review. *Frontiers in Psychology*, 10, 810. <https://doi.org/10.3389/fpsyg.2019.00810>.
- Ling, J., Xu, D., Robbins, L. B., & Meyer, J. S. (2020). Does hair cortisol really reflect perceived stress? Findings from low-income mother-preschooler dyads. *Psychoneuroendocrinology*, 111, 104478. <https://doi.org/10.1016/j.psyneuen.2019.104478>.
- Lopez-Zafra, E., Ramos-Álvarez, M. M., El Ghoudani, K., Luque-Reca, O., Augusto-Landa, J. M., Zarhbouch, B., Alaoui, S., Cortés-Denia, D., & Pulido-Martos, M. (2019). Social support and emotional intelligence as protective resources for well-being in Moroccan adolescents. *Frontiers in Psychology*, 10, 1529. <https://doi.org/10.3389/fpsyg.2019.01529>.
- Makhubela, M. (2020). Assessing psychological stress in south African university students: Measurement validity of the perceived stress scale (PSS-10) in diverse populations. *Current Psychology*. <https://doi.org/10.1007/s12144-020-00784-3>.
- Martínez-Marín, M. D., & Martínez, C. (2019). Subjective well-being and gender-typed attributes in adolescents: The relevance of emotional intelligence. *Australian Journal of Psychology*, 71, 296–304. <https://doi.org/10.1111/ajpy.12247>.
- Palmieri, P., Boden, T., & Berenbaum, H. (2009). Measuring clarity of and attention to emotions. *Journal of Personality Assessment*, 91(6), 560–567. <https://doi.org/10.1080/00223890903228539>.
- Petrides, K. V., Mikolajczak, M., Mavroveli, S., Sanchez-Ruiz, M.-J., Furnham, A., & Pérez-González, J.-C. (2016). Developments in trait emotional intelligence. *Emotion Review*, 8(4), 335–341. <https://doi.org/10.1177/1754073916650493>.
- Prado-Gascó, V., Villanueva, L., & Górriz, A. (2018). Trait emotional intelligence and subjective well-being in adolescents: The moderating role of feelings. *Psicothema*, 30(3), 310–315. <https://doi.org/10.7334/psicothema2017.232>.
- Prado-Gascó, V., Romero-Reignier, V., Mesa-Gresa, P., & Górriz, A. B. (2020). Subjective well-being in Spanish adolescents: Psychometric properties of the scale of positive and negative experiences. *Sustainability*, 12, 4011. <https://doi.org/10.3390/su12104011>.
- Proctor, C. L., Linley, P. A., & Maltby, J. (2009). Youth life satisfaction: A review of the literature. *Journal of Happiness Studies*, 10(5), 583–630. <https://doi.org/10.1007/s10902-008-9110-9>.
- Proctor, C., Linley, A., & Maltby, J. (2018). Life satisfaction. In R. J. Levesque (Ed.), *Encyclopedia of adolescence* (2nd ed., pp. 2165–2176). Springer https://doi.org/10.1007/978-3-319-33228-4_125.
- Rey, L., Extremera, N., & Pena, M. (2011). Perceived emotional intelligence, self-esteem and life satisfaction in adolescents. *Psychosocial Intervention*, 20(2), 227–234. <https://doi.org/10.5093/in2011v20n2a10>.
- Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the trait meta-mood scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure, & health*. (pp. 125–154). American Psychological Association.
- Salovey, P., Stroud, L. R., Woolery, A., & Epel, E. S. (2002). Perceived emotional intelligence, stress reactivity, and symptom reports: Further explorations using the trait meta-mood scale. *Psychology and Health*, 17(5), 611–627. <https://doi.org/10.1080/08870440290025812>.
- Schwartz, B., & Sharpe, K. E. (2006). Practical wisdom: Aristotle meets positive psychology. *Journal of Happiness Studies*, 7(3), 377–395. <https://doi.org/10.1007/s10902-005-3651-y>.
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology. An introduction. *The American Psychologist*, 55(1), 5–14. <https://doi.org/10.1037/0003-066X.55.1.5>.
- Soto, C. J. (2015). Is happiness good for your personality? Concurrent and prospective relations of the big five with subjective well-being. *Journal of Personality*, 83(1), 45–55. <https://doi.org/10.1111/jopy.12081>.

- Stavrova, O. (2019). How much do sources of happiness vary across countries? A review of the empirical literature. *Kolner Zeitschrift Fur Soziologie Und Sozialpsychologie*, 71, 429–464. <https://doi.org/10.1007/s11577-019-00612-y>.
- Suldo, S. M., & Huebner, E. S. (2004). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? *School Psychology Quarterly*, 19(2), 93–105. <https://doi.org/10.1521/scpq.19.2.93.33313>.
- Suldo, S. M., & Huebner, E. S. (2006). Is extremely high life satisfaction during adolescence advantageous? *Social Indicators Research*, 78(2), 179–203. <https://doi.org/10.1007/s11205-005-8208-2>.
- Villanueva, L., Montoya-Castilla, I., & Prado-Gascó, V. (2017). The importance of trait emotional intelligence and feelings in the prediction of perceived and biological stress in adolescents: Hierarchical regressions and fsQCA models. *Stress*, 20(4), 355–362. <https://doi.org/10.1080/10253890.2017.1340451>.
- Whitehead, R., Bates, G., Elphinstone, B., Yang, Y., & Murray, G. (2019). Nonattachment mediates the relationship between mindfulness and psychological well-being, subjective well-being, and depression, anxiety and stress. *Journal of Happiness Studies*, 20(7), 2141–2158. <https://doi.org/10.1007/s10902-018-0041-9>.
- Zheng, Y., Zhou, Z., Liu, Q., Yang, X., & Fan, C. (2019). Perceived stress and life satisfaction: A multiple mediation model of self-control and rumination. *Journal of Child and Family Studies*, 28(11), 3091–3097. <https://doi.org/10.1007/s10826-019-01486-6>.

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