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Proud, Excited...or simply Happy? Exploring Emotional Granularity in Adolescent Attachment Styles

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GRANULARITY IN ADOLESCENT ATTACHMENT STYLES**

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Resumo

O principal objetivo desta dissertação foi tentar perceber como é que a granularidade emocional varia consoante a vinculação dos adolescentes. Nomeadamente perceber se existe alguma relação entre a qualidade do laço emocional com os pais e a granularidade, e se a idade se relaciona também com esta. Tentámos também criar um instrumento que medisse a granularidade, adaptado à população portuguesa. Participaram no estudo 37 jovens, dos quais apenas se consideraram 35 respostas, com idades compreendidas entre os 12 e os 15 anos. Aplicaram-se o Questionário de Vinculação à Mãe e ao Pai (QVPM), a Escala de Avaliação do Repertório e Capacidade de Diferenciação Emocional (RDEES) e a Tarefa de Avaliação da Granularidade (TAG), construída para este estudo. Os resultados indicam que nenhuma das hipóteses iniciais se confirmam. Fatores como a homogeneidade de respostas, um possível viés amostral, o número reduzido de participantes e a pequena amplitude de idades podem ter contribuído para estes resultados. Foram encontradas diferenças de género durante a análise estatística, mas estas são incongruentes com a literatura existente. Percebemos que os jovens identificam facilmente a valência das emoções, mas têm dificuldades em perceber a sua intensidade. Tendo em conta os resultados, poderá ser necessário reformular o instrumento TAG, ou aplicá-lo a populações mais velhas.

Palavras-Chave: Granularidade Emocional, Vinculação, Adolescentes

Abstract

The main goal of this dissertation was to try to understand how emotional granularity varies according to adolescents' attachment. Specifically, to understand whether there is any relationship between the quality of the emotional bond with parents and granularity, and whether age is also related to this. We also tried to create an instrument that measures granularity, adapted to the Portuguese population. Thirty-seven young people participated in the study, of which only 35 responses were considered, aged between 12 and 15 years. The *Questionário de Vinculação à Mãe e ao Pai (QVPM)*, the Range and Differentiation of Emotional Experience Scale (RDEES), and the *Tarefa de Avaliação da Granularidade (TAG)*, constructed for this study, were applied. The results indicate that none of the initial hypotheses are confirmed. Factors such as the homogeneity of responses, a possible sampling bias, the small number of participants, and the narrow age range may have contributed to these results. Gender differences were found during statistical analysis, but these are inconsistent with the existing literature. We found that young people easily identify the valence of emotions but have difficulty perceiving their intensity. Given the results, it may be necessary to reformulate the TAG instrument or apply it to older populations.

Keywords: Emotional Granularity, Attachment, Adolescents

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Introduction

During adolescence, young people go through changes on various dimensions (neuroanatomic, social, biological, cognitive, and others) and have distinct levels of development depending on gender and puberty (Bailen & Thompson, 2019). These differences may affect emotional experience (Bailen & Thompson, 2019), so we must have them in consideration when studying these ages. Studies that used Ecological Momentary Assessments (EMA) have shown that younger adolescents (10-14 years old) experience less negative emotions and more positive ones, compared to older adolescents (14+ years old); the older ones also have differences in terms of intensity, meaning that they feel emotions more intensely, no matter the valence of said emotional state (positive or negative) (Bailen & Thompson, 2019). Due to the neuroanatomy changes that the adolescent brain undergoes in this age they are less able to control and to deal with their emotions (Asmussen, 2011), making them an interesting population to study emotional granularity, since they have more regulation difficulties compared to adults.

Emotional Granularity/ Differentiation

According to Schore (2015), emotions and affect play a crucial role in the development of the child, connecting them to their caregiver. The author explains that the visual systems are the first communication the baby has with the mother and will influence the type of attachment that is created with the caregiver. It is easy to conclude how important parental responsiveness is for the development of the child, and their affective system. Eye-to-eye contact is one of the first ways that the baby connects with someone on the socioemotional dimension (Schore, 2015).

Lewis (2008) explains that the baby is born with no conception of the existence of different emotions. However, with the gradual development of the child, they start to be able to differentiate between emotional states, due to processes of social-cognitive nature and maturation. Widen's studies (2017) explain that it's between ages 2 to 9 that children start to be able, gradually, to label emotions. This is explained by the broad-to-differentiated hypothesis, that states that children's emotional labels start by being "broad and valence based (...) and gradually narrow as more discrete concepts are acquired" (Widen, 2017). Widen & Russel's (2003) work indicates that while happiness, sadness and anger are early emerging emotional categories, fear, surprise and disgust only appear later in the emotional development of the child. As such, in the first four years of their life, children can correctly label broad emotional categories like happy, sad, and angry (happy at 37 months old; sad and angry differentiated at 48 months old), and only at 65 months old can children properly distinguish between being

happy, sad, angry, surprised, scared and disgusted, being the latest the last label acquired (Widen, 2017)

Parents may stimulate their children to reflect about their emotional state, and why are they feeling certain emotions (Harris, 2008). As such, it is possibly to expect that emotionally negligent caregivers (associated with avoidant attachment styles) will have a negative effect on their child's capability of meta-emotion (ability to think about emotions).

So, what exactly is granularity? It has to do with how specific someone can be when they are communicating how they feel, and the ability to reflect about why those feelings are appearing (Tan et al., 2022), like saying "I'm excited I got a good grade. I also feel very proud and grateful, because I put a lot of effort into studying" instead of "I'm happy I got a good grade". The precision with which someone describes how they are feeling is also correlated with mental health, and the resilience when faced with adversity, hence the importance of studying this topic with younger population, that are still developing emotionally (Nook, 2021).

When children cannot distinguish with accuracy between various emotional states, it may affect how they perceive other people's emotions, possibly leading to misunderstandings with the ones that surround them (Widen & Russel, 2008). With that in mind, the study of this phenomenon is of high importance, so science can inform the practice about how granular, or not, our students are, and how we may potentiate healthy emotional development.

Attachment Theory

The Attachment Theory was first developed by John Bowlby (1968), to explain the relationship between a child and their caregiver, and its consequences in the child's development. The bond in this relationship is understood to be a sort of survival instinct, that has the biological function of keeping the child close to their caregiver to ensure that their needs are met (Bowlby, 1969). It was concluded that these first relationships will influence the way the child will behave towards others when they grow up, according to different relational categories or attachment styles (Delgado et al., 2022).

Later, Ainsworth (1978) tested Bowlby's work through a known study named "The Strange Situation", in which a child and their mother were in a room together, and the goal was to see how the child behaved with the mother, especially if they played with the toys and explored the room. Then a stranger would enter the room, with the caregiver still present, and start playing with the child, after which the mother would leave. She would then return and play with the child in the presence of the stranger, and then both mother and stranger would leave the room, leaving the child alone for a short time. The mother would then come back and give

comfort to her child. This scenario was meant to explore if the child would get more anxious without the mother's presence than with the stranger's presence (Ainsworth, 1978; Asmussen, 2011).

Through this work, Ainsworth (1978) discovered three different attachment styles: avoidant-insecure, secure, and ambivalent/resistant. In the avoidant-insecure attachment style, the child avoided the mother when reunited by her, whether by not seeking proximity or turning away from her, treating her the same or a little worse than the stranger; children with secure attachment style, on the contrary, actively looked for the mother's company and interaction, noticing her when reunited with her again and smiling towards her, easily comforted on her arrival; lastly, the ambivalent/resistant attachment style describes children who seem resistant to interact with their mother while simultaneously seeking proximity with her, being distressed when she leaves the room, but also angry when she comes back (Ainsworth, 1978; Asmussen, 2011).

A fourth pattern of attachment was later found by Mary Main (1985), that claimed that some children did not fit the categories above described by Ainsworth, and so created the disorganized/disoriented attachment style. This pattern is characterized by behaviours of confusion or apprehension towards the caregiver, while exhibiting contradictory actions like approaching the mother with their head down (Main, 1985). This pattern is hypothesised to be common among children who suffered abuse or neglect, or instable parental responsiveness (Asmussen, 2011).

The impact that these early attachments have in the future of the child's relationships are further explained by Bartholomew and Horowitz (1991). These authors created the Model of Adult Attachment, that consists of a combination of the model of the self and the model of the other proposed by Bowlby, dichotomizing them in positive or negative, that creates four dimensions of attachment: (1) secure, in which both models are positive, meaning that the self feels loved and the others are viewed as trustworthy; (2) preoccupied, where the model of self is negative – does not feel loved – and the model of other is positive – people are reliable – that tend to include people who seek external validation to gain self-acceptance; (3) fearful-avoidant, that happens when both models are negative, which means that the person doesn't feel loved and doesn't trust the others, leading to an avoidant style; (4) dismissive, in which the model of self is positive and the model of other is negative, having a sense of worthy combined with a distrust for others (Bartholomew & Horowitz, 1991).

Considering Bartholomew's and Horowitz's idea of a dichotomy between the self and the other, we understand that there is a relationship between identity and attachment (Benson et al., 1992). Identity can be predicted by using a construct named separation-individuation, that includes family affinity and family incentive to "explore individuality" (Matos et al., 1999). Therefore, it is important to study not only attachment styles, but also the components of attachment related to teens' identity like the quality of the emotional bond they have with their parents, the opportunities the parents give them to explore themselves and be an individual, and the anxiety they may feel when separated from the attachment figures (Matos et al., 1999).

It is also important to consider the specificities of attachment in adolescence. As previously highlighted, the bonds formed with the caregivers in early stages of life will determine how future relationships look like, influencing the socioemotional and the cognitive development. Adolescents tend to be more closed off and emotionally distanced compared to early ages, spending less time with their caregivers (Delgado et al., 2022). Hence the importance of studying emotion at such ages, so that we may better comprehend how teenagers view and feel in the world and perhaps hypothesize about how we may intervene in attachment to facilitate their emotional navigation into adulthood.

Adolescent Emotional Development

As previously explained, adolescence is a phase where it becomes more difficult to deal with one's emotions (Asmussen, 2011), especially when they tend to be felt more intensely and frequently (McLaughlin et al., 2015). There is a tendency for the daily emotional experience of teens to become more negative as they mature in age, explained by a decrease of positive everyday affect. One must also consider that the adolescent feminine population is at greater risk of depressed moods than the masculine (McLaughlin et al., 2015), which may have implications in this study.

Teenagers have a very intense emotional experience both for the positive and negative valence of emotions, compared to children, and are more likely to have contradicting or mixed feelings about things. Despite this, adolescence is not a phase described by having persistently high reactivity values, being dependent on what triggers the emotional response, and how important it is for the self (McLaughlin et al., 2015).

Study Goals and Hypothesis

Attachment styles and emotional granularity have yet to be combined in a study before, and so I chose to merge the two variables to bring some innovation to the field of emotion study. Most investigation that is made in the field only considers emotional states with negative

valence (Fugate et al., 2022), which narrows the emotional experience and perception to negative feelings. With this study I balanced the list of emotional states chosen, so that we have the same number of positive and negative states, measuring granularity more accurately. The main goal of this dissertation is to understand how emotional granularity varies as a function of the attachment style of adolescents. I am hoping to find that adolescents with better quality in their parental relationships will have higher scores of emotional granularity. I also expect to find age group differences, between the younger adolescents (12 through 13 years old) and older adolescents (14 through 15 years old). Finally, I intend to construct a new method to measure granularity, adapted to the Portuguese population.

Method

Participants

The participants of this study were originally 37 teenage students, but only 35 were considered for the analysis. One was excluded due to missing values on the QVPM (*Questionário de Vinculação à Mãe e ao Pai*) scale and another for answering only maximum scores to 6 of the 7 scenarios in the *Tarefa de Avaliação de Granularidade* (TAG). Also, the scores for student 29 (id=56) have been corrected, as they gave 10/15 answers to their father and 5/10 to their mother; the missing items for the father correspond to the items answered to the mother, and there was probably an error in filling in the form.

The sample was collected from the school *Escola Básica Integrada de São Vicente Pereira Jusã* from *Agrupamento de Escolas Ovar Sul* in Ovar, Aveiro, Portugal.

The students are aged between 12 and 15 years old ($M = 13.46$, $SD = 1.12$), of which 28.6% ($N = 10$), 17.1% ($N = 6$), 34.3% ($N = 12$) and 20% ($N = 7$) are, respectively, 12, 13, 14 and 15 years old. This population consists of 20 females (57.1%) and 15 (42.9%) males, spread across 3 years of schooling: 7th grade (45.7%, $N = 16$), 8th grade (11.4%, $N = 4$) and 9th grade (42.9%, $N = 15$). All of the 35 students answered with “Yes” to being fluent in Portuguese.

For the statistical analysis, the population was divided in two groups: younger adolescents – including teens aged between 12 and 13 years old (45.7%, $N = 16$) – and older adolescents – with ages ranging from 14 to 15 years old (54.3%, $N = 19$).

Instruments

For this study a scenario rating task and two scales were used. The scales were the *Questionário de Vinculação ao Pai e à Mãe* (QVPM) (Matos & Costa, 2001), and The Range

and Differentiation of Emotional Experience Scale (RDEES) (Kang & Shaver, 2004; Portuguese version from Vaz, 2009) (Appendix A and Appendix B, respectively). For the scenario tasks, a new instrument was developed for the purpose of this study, described below, named “*Tarefa de avaliação de granularidade*”, also referred as TAG (Appendix C). In addition, a brief non-evaluated task designed to elicit a pleasant state was conducted at the end of each participation, to avoid possible negative feelings evoked by the other instruments.

The TAG consists of seven scenarios where two adolescent characters interact with each other in a school setting, in situations that typically evoke positive or negative emotions, or in neutral situations. Then, the instrument displays a list of emotional states, each followed by 5-point Likert scales (with 0 meaning not present/noticeable, and 4 meaning very present/noticeable) for the participant to fill out for each of the two adolescents in the situation. This list was a shorter version of the one Lee et al. proposed in their study (Lee et al., 2017). It contains eight positive emotion categories (awe, contentment, excitement, gratitude, happiness, love, pride, and serenity) and eight negative categories (anger, boredom, disgust, dissatisfied, embarrassment, fear, sadness, and tired), to have a wide emotional spectrum represented. Two categories from each valence (positive and negative) were dropped from the original set, so the list would be less overwhelming for the adolescent participants. Subjects are expected to evaluate the presence of each emotion for each character in each scenario. The seven TAG scenarios vary in valence: two having positive valence (i.e., both characters experience a typically pleasant situation), two having negative valence (i.e., both characters in a negative situation), two involving both positive and negative valence (i.e., one character experiences a pleasant situation but the other character a negative state), and one being an emotionally neutral scenario. Each pair of scenes contains two different levels of emotional intensity, to measure granularity more accurately. The scenarios appeared in randomized order. To ensure applicability and validity of the new task, the TAG was pilot tested.

The *Questionário de Vinculação ao Pai e à Mãe (QVPM)* (Matos & Costa, 2001) is based on the theoretical principles established by Bowlby and Ainsworth, and the attachment evaluation proposal of Bartholomew. This self-report scale measures adolescents’ perceptions of their attachment relationship with both their parents, through 15 items. The *QVPM* is divided in 3 dimensions of adolescent attachment: inhibition of exploration and individuality (5 items, e.g. “My parents discourage me when I want to try something new.”), quality of emotional bond (5 items, e.g. “My parents know me well.”) and separation anxiety (5 items, e.g. “I can only face new situations if my parents are with me.”). Each item is answered for both the mother and the father figure, through a 6-point Likert scale (with 1 meaning completely disagree, and 6

completely agree). For the mother's scales, the original author found Cronbach's Alpha values ranging from .76 to .88, and values between .80 and .89 for the father's scales (Matos et al., 1999)

The *Escala de Avaliação do Repertório e Capacidade de Diferenciação Emocional* (Range and Differentiation of Emotional Experience Scale, Kang & Shaver, 2004) consists of 14 items on a 7-point Likert scale (where 1 means "Slightly characteristic", 6 "Extremely characteristic" and 7 "Not at all characteristic"). This self-report scale consists of two subscales, emotional repertory and emotional differentiation. The first subscale, emotional repertory, consists of six items and assesses the diversity of emotions that individuals are able to experience (e.g., 'I experience a wide range of emotions'). The second subscale, emotional differentiation, consists of eight items that measure the ability to distinguish subtleties between identical emotions (e.g., 'I consider each emotion to have a very distinct and unique meaning for me') (Kang & Shaver, 2004; Vaz, 2009). The analysis of the internal consistency of the scale translated for the Portuguese population reveals Cronbach's alpha values of .80 for the total scale, .82 for the Emotional Differentiation subscale, and .63 for the Emotional Repertory subscale (Vaz, 2009)

Procedure

Before proceeding with any data collection, authorization was requested from the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Porto, the Data Protection Department of the University of Porto, and the Directorate-General for Educational Establishments (DGESTE), all of which gave their approval (in the case of the Ethics Committee, this was a positive appraisal, as the committee is a consulting body). Next, an internal request for authorisation to collect data was submitted to the director of the Ovar Sul School Group, which responded affirmatively to it.

Data collection was carried out online, using the UP survey platform (local university server running Limesurvey). Initially, a short sociodemographic questionnaire (Appendix D) was administered, asking participants about their age, gender, year of schooling, and fluency in Portuguese. This questionnaire guarantees the anonymity of participants and is followed by the Questionário de Vinculação à mãe e ao pai (QVPM), The Range and Differentiation of Emotional Experience Scale (RDEES) and, finally, the Tarefa de Avaliação de granularidade (TAG). The names of the scales were not included in the questionnaires to avoid bias in the results, and the TAG scenarios appeared randomly to each participant.

The study was publicized directly and personally, as the school where the sample was collected was also my internship location. Citizenship and Class Assembly lessons were used to publicize the study (information that is also included in the informed consent form for parents/guardians). The invitation to participate was extended to all classes from 7th to 9th grade, representing a total of 6 classes, of which: two are 7th grade (one with 17 students, the other with 16); one is 8th grade (composed of 11 students); and two are 9th grade (one with 15 students, the other with 13). Informed consent forms were handed out so that they could be taken home and later returned by students who actually wanted to and were authorized to participate in the research.

The data collection took place at the school, in the computer rooms, so that all students had the necessary resources to respond. In addition to the participants, only the master's student conducting this dissertation was present, who was available to give instructions and clarify doubts.

Results

Internal Consistency and Descriptive Statistics

The Range and Differentiation of Emotional Experience Scale (RDEES) shows overall good internal consistency ($M= 55.97$, $SD=12.30$, $\alpha=.82$). However, we notice that the subscales Emotional Repertory ($M= 23.00$, $SD=5.83$, 6 items, $\alpha=.63$) and Emotional Differentiation ($M=32.97$, $SD=7.29$, 8 items, $\alpha=.72$) only have questionable and acceptable internal consistency respectively.

The *Questionário de Vinculação à mãe e ao pai (QVPM)* requires participants to answer separately to both parents, as such, regarding the subscale Inhibition of Exploration and Individuality, the Cronbach's alpha values represent questionable internal consistency for the father ($M= 11.47$, $SD= 5.86$, 5 items, $\alpha=.62$) and unacceptable for the mother ($M= 10.03$, $SD= 4.17$, 5 items, $\alpha=.25$). When looking at the Quality of the Emotional Bond factor, the father has excellent internal consistency ($M= 22.88$, $SD= 7.73$, 5 items, $\alpha=.92$) and the mother has very good consistency ($M= 26.29$, $SD= 5.30$, 5 items, $\alpha=.89$), this being the subscale with best overall internal consistency for both parents. Lastly, considering the Separation Anxiety subscale, the father presents questionable alpha values ($M= 15.34$, $SD= 5.64$, 5 items, $\alpha=.66$), and the mother has bad internal consistency ($M= 17.56$, $SD= 5.14$, 5 items, $\alpha=.55$).

The instrument created for this study (*Tarefa de Avaliação da Granularidade*) is a scenario rating task, with 7 scenarios (TAG1 through TAG7) that have different intensity and

valence. On these scenarios, each character was expected to display either positive or negative valence/emotions, with low or high intensity.

Considering that the list of emotional states included both positive and negative states, these were separated into two new variables for each character: one containing the sum of responses to positive emotions, and one containing the sum of responses to negative emotions. In this way, we were able to understand whether each character was evaluated according to the expected valence and intensity, using the means across participants of the sum scores for positive and negative states of each character. This is a form of descriptive validation of the task.

Characters with expected low intensity and positive valence – Lucas, Rui and Tomé – have higher scores in positive emotions (e.g., Lucas, $M= 21.29$, $DP= 8.14$) than negative (e.g., Lucas, $M= .66$, $DP= 1.41$). Characters with expected high intensity and positive valence – André, Clara and Sofia – also have higher scores in positive emotions (e.g., André, $M= 20.66$, $DP= 6.69$) when compared to negative emotions (e.g., André, $M= 2.94$, $DP= 3.59$). Characters with expected low intensity and negative valence – Gonçalo, Beatriz and Joana – obtained higher scores in negative emotions (e.g., Gonçalo, $M= 18.60$, $DP= 8.30$) than in positive ones. Lastly, characters with expected high intensity and negative valence – Manuel, Francisca and João – have higher scores in negative emotions (e.g., Manuel, $M= 13.40$, $DP=6.63$) when compared to positive ones (e.g., Manuel, $M= 3.11$, $DP= 5.39$).

However, when looking at the expected intensity, we can conclude that only the mixed valence scenarios obtained the expected values, since it's the only pair of scenarios in which the low intensity characters Tomé ($M= 10.63$, $DP= 7.77$) and Joana ($M= 10.74$, $DP= 5.28$) have lower means than the high intensity characters Sofia ($M= 19.00$, $DP= 9.05$) and João ($M= 17.23$, $DP= 6.78$)

Table 1

Expected valence and intensity by character and scenario, and mean responses of the participants to each one

Scenario	Expected Valence	Expected Intensity	Character	Positive emotions		Negative emotions	
				M	DP	M	DP

TAG 1	+	Low	Lucas	21.29	8.14	0.66	1.41
	+		Rui	22.80	7.47	0.74	1.88
TAG 2	+	High	André	20.66	6.69	2.94	3.59
	+		Clara	21.43	6.57	1.80	4.50
TAG 3	−	Low	Gonçalo	2.66	5.25	18.60	8.30
	−		Beatriz	4.60	5.97	14.83	7.54
TAG 4	−	High	Manuel	3.11	5.39	13.40	6.63
	−		Francisca	3.51	5.08	16.34	6.53
TAG 5	+	Low	Tomé	10.63	7.77	7.63	7.14
	−		Joana	4.17	5.44	10.74	5.28
TAG 6	+	High	Sofia	19.00	9.05	3.20	6.37
	−		João	4.66	4.96	17.23	6.78
TAG 7	Neutral	Neutral	Ana	12.63	9.45	2.71	6.36
			Jaime	12.5	9.44	1.31	2.90

In order to measure each participant's Emotional Granularity, score answers with 0 or 1 points were recoded into 0 and answers going from 2 to 4 points recoded into 1, to obtain a binary variable coding for the absence (0) or presence (1) of each emotion for each character/situation. Then, for each character/situation, I computed the sum of all the new binary answers to quantify how many emotions were present in each different situation.

The characters in which students identified the highest number of emotions were André ($M = 6.86$, $SD = 2.30$) and Clara ($M = 6.43$, $SD = 1.99$), both from the positive high-intensity scenario. In contrast, the lowest number of identified emotions was observed for Jaime ($M = 4.20$, $SD = 2.90$) from the neutral scenario, and Joana ($M = 4.26$, $SD = 3.09$) from the negative low-intensity scenario.

Table 2

Sum of the binary variables used for each character/situation

		Statistics													
		TAG1_lucas_n um_emoções	TAG1_rui_n um_emoções	TAG2_andre_n um_emoções	TAG2_clara_n um_emoções	TAG3_gonçalo _num_emoçoe s	TAG3_beatriz_ num_emoções	TAG4_manuel _num_emoçoe s	TAG4_francisc a_num_emoço es	TAG5_tome_n um_emoções	TAG5_joana_n um_emoções	TAG6_sofia_n um_emoções	TAG6_joao_nu m_emoções	TAG7_ana_nu m_emoções	TAG7_jaime_n um_emoções
N	Valid	35	35	35	35	35	35	35	35	35	35	35	35	35	35
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mean	6.00	6.40	6.86	6.43	5.83	5.91	4.77	5.46	5.26	4.26	6.11	6.31	4.63	4.20
	Std. Deviation	2.314	2.018	2.303	1.989	3.005	4.047	2.224	2.627	3.501	3.090	2.774	2.447	3.889	2.898
	Minimum	0	0	2	2	0	0	1	1	0	1	0	0	0	0
	Maximum	9	9	12	11	16	16	11	12	13	16	13	12	15	9

Inferential statistics

By taking the binary variables of the sum of emotions, I averaged them across situations in 4 conditions: (1) positive valence, low intensity; (2) positive valence, high intensity; (3) negative valence, low intensity; and (4) negative valence, high intensity.

To examine the association between attachment and emotional granularity, especially the association with the Quality of Emotional Bond with the second one, we tested the effects of father and mother quality subscales with the conditions mentioned above (Valence and Intensity).

A repeated-measures ANCOVA was conducted with Father Quality of the Emotional Bonding included as a covariate. Valence (Positive, Negative) and Intensity (High, Low) were within-subjects factors. The covariate Father Quality of Emotional Bond did not significantly interact with any of the within-subjects factors. The interactions between the covariate and Valence ($F(1,32) = 0.09, p = .764$), Intensity ($F(1,32) = 0.95, p = .338$), and Valence $\times$ Intensity ($F(1,32) = 0.62, p = .436$) were nonsignificant. Neither Valence $F(1,32) = 0.90, p = .350$ nor Intensity $F(1,32) = 1.95, p = .173$ produced significant main effects. These results indicate that participants' responses did not differ significantly between positive and negative or between high- and low-intensity when controlling for Father Quality of the Emotional Bond. Lastly, the Valence $\times$ Intensity interaction was not significant, $F(1,32) = 1.17, p = .287$.

A repeated-measures ANCOVA was conducted with Mother Quality of the Emotional Bond included as a covariate. Valence (Positive, Negative) and Intensity (High, Low) were within-subjects factors. The covariate Mother Quality of Emotional Bond did not significantly interact with any of the within-subjects factors. The interactions between the covariate and Valence ($F(1,32) = 1.03, p = .317$), Intensity ($F(1,32) = 0.26, p = .617$), and the Valence $\times$ Intensity combination ($F(1,32) = 0.64, p = .428$) were all nonsignificant. These results suggest that differences in perceived maternal bond quality did not influence how participants responded to variations in emotional valence or intensity. The main effect of Valence approached significance, $F(1,32) = 3.16, p = .085$, indicating toward different responses between positive and negative emotions, though this did not reach conventional significance levels. The main effect of Intensity was not significant, $F(1,32) = 0.03, p = .865$. Lastly, the Valence $\times$ Intensity interaction was also not significant, $F(1,32) = 0.41, p = .529$.

To examine the association between age and emotional granularity, we tested the effects of age group with the conditions mentioned above (Valence and Intensity).

A mixed-design ANOVA was conducted with Valence (Positive vs. Negative) and Intensity (High vs. Low) as within-subjects factors, and Age Group (Younger and Older) as a between-subjects factor. There was a significant main effect of Valence, $F(1,33) = 14.94, p < .001, \eta^2 = .312$, indicating that responses differed significantly between positive ($M = 18.55, DP = 1.02$) and negative ($M = 16.28, DP = 1.16$) situations. The main effect of Intensity was not significant, $F(1,33) = 3.24, p = .081$, same as the Valence $\times$ Intensity interaction, $F(1,33) = 0.51,$

$p = .480$, and the Valence $\times$ Age Group interaction, $F(1,33) = 0.11$, $p = .74$, suggesting that the difference between positive and negative situations was consistent across age groups. Similarly, the Intensity $\times$ Age Group interaction was not significant, $F(1,33) = 0.40$, $p = .530$. Finally, the three-way interaction (Valence $\times$ Intensity $\times$ Age Group) was not significant, $F(1,33) = 1.40$, $p = .246$, indicating that the combined effects of valence and intensity did not vary as a function of age group.

To examine the validity of the new task we constructed, we tested the association between the conditions mentioned above (Valence and Intensity).

A repeated measures ANOVA was conducted to study the effects of Valence (Positive vs. Negative) and Intensity (Low vs. High) on emotional granularity response scores. There was a significant main effect of Valence, $F(1, 34) = 15.226$, $p < .001$, $\eta^2 = .309$, that indicate that positive situations ($M = 18.53$, $DP = 1.00$) obtained higher overall scores compared to negative situations ($M = 16.27$, $DP = 1.14$). The main effect of Intensity was not statistically significant, $F(1, 34) = 3.122$, $p = .086$, although the direction of the means may suggest slightly that high-intensity scenarios ($M = 17.97$, $DP = 1.00$) have stronger responses than low-intensity scenarios ($M = 16.83$, $DP = 1.16$). The interaction between Valence and Intensity was also not significant, $F(1, 34) = 0.663$, $p = .421$, which means that intensity did not differentially affect positive vs. negative situations.

Exploratory statistics

Further statistical analysis were also conducted in order to establish any possible significant interactions between valence and intensity factors and gender but also with the remaining subscales.

A mixed-design ANOVA was conducted with Valence (Positive vs. Negative) and Intensity (High vs. Low) as within-subjects factors, and Gender as a between-subjects factor. There was a significant main effect of Valence, $F(1, 33) = 14.653$, $p < .001$, $\eta^2 = .307$, indicating that participants responded more strongly to positive situations ($M = 18.43$, $DP = 1.02$) compared to negative ones ($M = 16.38$, $DP = 1.16$), regardless of intensity or gender. The interaction between Valence and Gender is statistically significant, $F(1, 33) = 7.660$, $p = .009$, which means that Valence varies by gender. On one hand, the female population presented higher scores when answering positive situations ($M = 19.15$, $DP = 1.34$) than negative ones ($M = 15.63$, $DP = 1.52$); on the other hand, the male population presented similar scores when answering positive ($M = 17.70$, $DP = 1.55$) and negative ($M = 17.13$, $DP = 1.76$) situations. The main effect of Intensity was not statistically significant, $F(1, 33) = 3.076$, $p = .089$, and neither was the interaction between Intensity and Gender, $F(1, 33) = 0.043$, $p = .837$, indicating that

intensity effects were similar for both genders. The interaction between Valence and Intensity was, again, not significant, $F(1, 33) = 0.799, p = .378$ and the three-way interaction (Valence $\times$ Intensity $\times$ Gender) was also not significant, $F(1, 33) = 0.436, p = .513$, indicating that the combined effect of valence and intensity did not vary across genders.

A repeated-measures ANCOVA was conducted with Emotional Differentiation entered as a covariate. Valence (Positive vs. Negative) and Intensity (High vs. Low) were within-subjects factors. The covariate Emotional Differentiation did not have a significant effect on any of the within-subjects variables. Its interactions with Valence ($F(1,33) = 0.001, p = .972$), Intensity ($F(1,33) = 0.012, p = .913$), and the Valence $\times$ Intensity combination ($F(1,33) = 0.006, p = .986$) were all nonsignificant. This indicates that participants' emotional differentiation scores did not systematically influence how they responded to variations in valence or intensity. The main effect of Valence was not significant, $F(1,33) = 0.62, p = .439$. Similarly, the main effect of Intensity was not significant, $F(1,33) = 0.07, p = .794$. Lastly, the Valence $\times$ Intensity interaction was not significant, $F(1,33) = 0.04, p = .852$.

A repeated-measures ANCOVA was conducted with Emotional Repertory entered as a covariate. Valence (Positive vs. Negative) and Intensity (High vs. Low) were within-subjects factors. The covariate Emotional Repertory did not significantly affect responses to any of the within-subjects factors. The interactions between Emotional Repertory and Valence ($F(1,33) = 0.18, p = .677$), Intensity ($F(1,33) = 0.42, p = .524$), and the Valence $\times$ Intensity interaction ($F(1,33) = 0.01, p = .908$) were all nonsignificant. This suggests that variability in participants' emotional repertory did not moderate the effects of valence or intensity. The main effect of Valence was not significant, $F(1,33) = 0.28, p = .603$. Similarly, the main effect of Intensity was not significant, $F(1,33) = 0.04, p = .842$. Lastly, the Valence $\times$ Intensity interaction was not significant, $F(1,33) = 0.09, p = .760$, indicating that the combined effect of valence and intensity did not differ as a function of emotional repertory.

A repeated-measures ANCOVA was conducted with Father Inhibition of Exploration and individuality included as a covariate. Valence (Positive, Negative) and Intensity (High, Low) were within-subjects factors. The covariate Father Inhibition of Exploration and Individuality did not significantly interact with any of the within-subjects factors. The interactions between Father Inhibition and Valence ($F(1,32) = 2.47, p = .126$), Intensity ($F(1,32) = 0.27, p = .604$), and the Valence $\times$ Intensity combination ($F(1,32) = 0.13, p = .719$) were all nonsignificant. These results indicate that individual differences in perceived paternal inhibition of exploration did not moderate the effects of emotional valence or intensity. A significant main effect of Valence was found, $F(1,32) = 10.40, p = .003, \eta^2 = .245$, indicating that responses

differed significantly between positive ($M= 18.49$, $DP= 1.04$) and negative ($M= 16.15$, $DP=1.18$) emotions after controlling Father Inhibition of Exploration. The main effect of Intensity was not significant, $F(1,32) = 0.04$, $p = .844$. Lastly the Valence $\times$ Intensity interaction was not significant, $F(1,32) = 0.02$, $p = .885$.

A repeated-measures ANCOVA was conducted with Mother Inhibition of Exploration and individuality included as a covariate. Valence (Positive, Negative) and Intensity (High, Low) were within-subjects factors. The covariate Mother Inhibition of Exploration and Individuality did not significantly interact with any of the within-subjects factors. The interactions between the covariate and Valence ($F(1,32) = 1.63$, $p = .211$), Intensity ($F(1,32) = 0.10$, $p = .758$), and the Valence $\times$ Intensity combination ($F(1,32) = 0.03$, $p = .875$) were all nonsignificant. A significant main effect of Valence was observed, $F(1,32) = 7.37$, $p = .011$, which means that answers differed significantly between positive ($M= 18.94$, $DP= 0.94$) and negative ($M= 16.59$, $DP= 1.01$) situations. The main effect of Intensity was not significant, $F(1,32) = 0.12$, $p = .736$. Lastly, the Valence $\times$ Intensity interaction was also not significant, $F(1,32) = 0.19$, $p = .665$.

A repeated-measures ANCOVA was conducted with Father Separation Anxiety included as a covariate. Valence (Positive, Negative) and Intensity (High, Low) were within-subjects factors. The covariate Father Separation Anxiety did not significantly interact with any of the within-subjects factors. The interactions between the covariate and Valence ($F(1,30) = 0.15$, $p = .698$), Intensity ($F(1,30) = 2.77$, $p = .107$), and Valence $\times$ Intensity ($F(1,30) = 0.06$, $p = .812$) were nonsignificant. The main effect of Valence was not significant, $F(1,30) = 2.54$, $p = .122$. However, the main effect of Intensity was significant, $F(1,30) = 5.05$, $p = .032$, $\eta^2 = .144$, suggesting that participants responded differently to low ($M= 16.58$, $DP= 1.15$) versus high ($M= 17.83$, $DP= 1.02$) intensity emotions after accounting for the η . Lastly, the Valence $\times$ Intensity interaction was not significant, $F(1,30) = 0.25$, $p = .620$.

A repeated-measures ANCOVA was conducted with Mother Separation Anxiety included as a covariate. Valence (Positive, Negative) and Intensity (High, Low) were within-subjects factors. Covariate Effects. The covariate Mother Separation Anxiety significantly interacted with Valence, $F(1,30) = 7.51$, $p = .010$, $\eta^2 = .200$. Decomposing the interaction through a Pearson's correlation, we find that the Only statistically significant relationship is between negative and positive valence ($r= .92$, $p < 0.01$), meaning that participants that score higher on negative emotions tend to do the same for positive ones. Both the relationship between Mother separation anxiety with negative valence ($r= .16$, $p= .38$) and positive valence ($r= -.10$, $p= .59$) were weak. In contrast, interactions between the covariate and Intensity ($F(1,30) = 0.00$,

$p = .963$) and the Valence $\times$ Intensity interaction ($F(1,30) = 2.29, p = .141$) were nonsignificant. The main effect of Valence was significant, $F(1,30) = 14.10, p < .001, \eta^2 = .320$, showing that responses differed between positive ($M = 18.83, DP = 0.95$) and negative ($M = 16.53, DP = 1.16$) situations even after controlling for maternal separation anxiety. However, the main effect of Intensity was not significant, $F(1,30) = 0.39, p = .538$. Lastly, the Valence $\times$ Intensity interaction was not significant, $F(1,30) = 1.69, p = .203$.

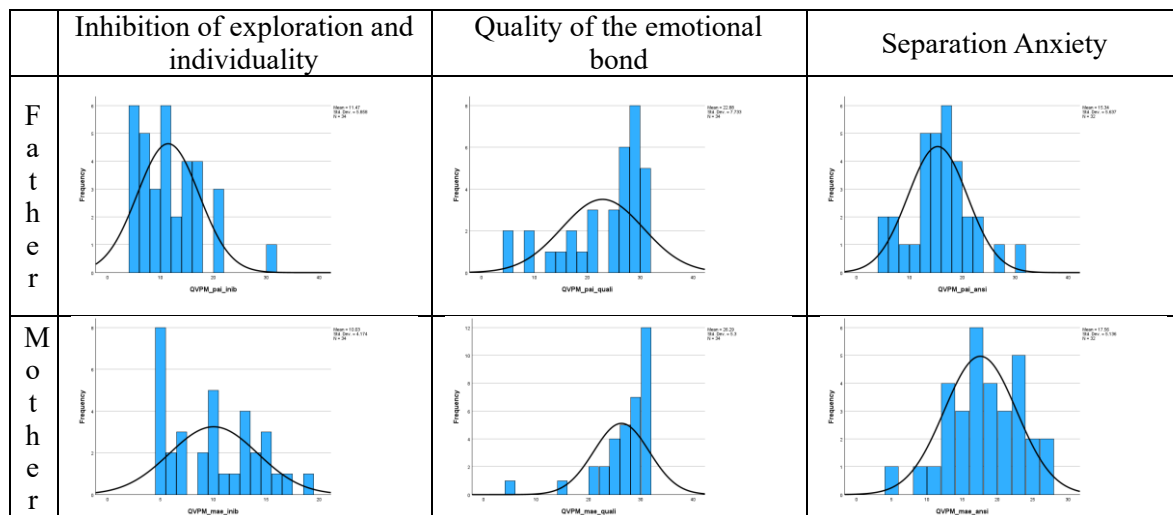
Discussion

The main hypothesis/goals of the study were: (1) to understand if there was a relationship between emotional granularity and attachment styles; (2) to understand if there was a relationship between higher scores in the quality of the emotional bond with parents, and higher scores in granularity; (3) to understand if granularity varies depending on the adolescents' age; and (4) to create an instrument to measure granularity, adapted to the Portuguese population.

The initial hypothesis that there may be a relationship between granularity and attachment, and specifically between granularity and the quality of the emotional bond with the parents was disproven in this study. As seen in the results, most statistical analysis were non significant, and it may be important to explore why. The main relationship that we try to study (mentioned above) may exist, but due to the small number of participants in this study we were not able to make any affirmation regarding that fact. When using histograms to see the distribution of the answers throughout the QVPM's different subscales, we understand that there is only Separation Anxiety scales for both parents show distributions that approximate normality. For the other two subscales (Inhibition of exploration and individuality and Quality of the emotional bond) there is homogeneity in the students' answers, as seen in Table 3 below. Regarding Inhibition, we notice that there is not much representation in the highest scores on the scale, opposed to Quality, where we find few answers in the lowest scores on the scale. The lack of variance encountered in the different dimensions of attachment, confirmed by the homogeneity found in the answers, further corroborates the fact that these results may not represent the population, as there may be an undercoverage sample bias (Eckman & Kreuter, 2013).

Table 3

Histograms representing students' answers to each of the QVPM subscales



The specific hypothesis regarding Quality of emotional bond was also disproven by the statistical analysis for both parents, even though the participants revealed high scores in this factor. This may be due to the cognitive and neural qualities of emotional differentiation, coming from different processes than the affective bond with parents (Tan et al., 2022). While parental attachment is important to emotional regulation (Sahin et al., 2023), it does not seem to be connected with the capability to understand nuances in emotions, or having the emotional vocabulary to do so. The fact that most answers were high scores may also mean that we cannot confirm if the opposite of the hypothesis is true: if adolescents with lower quality of emotional bond with their parents will present less granularity

There are also no significant implications of valence and intensity when considering younger and older adolescents. It seems that, beyond not having enough answers, the participants' ages are too close to each other, only three years separating the youngest (12 years old) and the oldest (15 years old). Ideally, the age groups should have a bigger gap as suggested in this study's introduction, in order to guarantee that the adolescents are in different developmental stages.

Through the TAG descriptives and the inferential statistical analysis it is possible to see that students clearly understand valence, but struggle with the intensity aspect of the emotions. Older adolescents (14+ years old) feel every type of emotion more intensely (Bailen & Thompson, 2019). The fewer number of participants considered older students (20%, N = 7) may explain why this sample had difficulties with the intensity aspect of the task, but not with the valence aspect. Although younger adolescents (10-14 years old) experience more positive than negative emotions (Bailen & Thompson, 2019), no differences were detected by group in this study, most likely due to the small number of older adolescents. If we keep looking at Table

1 it is also noticeable that all scenarios were successful valence wise except the neutral one, where we find high scores specially in the positive emotions, for both Ana ($M= 12.63$, $DP= 9.45$) and Jaime ($M= 12.5$, $DP= 9.44$), whose values are identical. When discussing intensity, it is also safe to affirm that the mixed scenarios (TAG5 and TAG6) were the only ones where there is an understanding about which is more intense of the two. Several of these findings are based on descriptive statistics, but allow a preliminary approach to the validity of the TAG.

When looking at Table 2 we are able to deduce to a certain point how granular students can be. Interestingly, the means found on the amount of emotions indicated by the students is low. The total of listed emotions being 16 and the means fluctuating between 4.20 and 6.86 imply that the students' ability to differentiate between different emotional states may be low, although support for this claim would require additional reference data.

When looking at the RDEES descriptives we can assume that the participants' scores (especially in the Emotional Differentiation subscale) were slightly above average ($M= 32.97$, $DP= 7.29$) when compared to the maximum score one could obtain in this subscale, that is 56. Since there was no significance in any analysis with the RDEES subscales, we can hypothesize about the reason(s) of these results: (1) TAG is not measuring emotional granularity properly, (2) the students were not paying enough attention to the task, (3) students do not have sufficient emotional vocabulary to correctly interpret the task.

Since the differences in intensity were mostly non present, the instrument created may not be measuring granularity accurately, since we need understanding of both valence and intensity to do so. It may be that the scenarios need to be rephrased, or that the target population needs to be older, in order for the instrument to work properly.

It was noticeable that during data collection the students got distracted very easily. Whether by colleagues' noises, by other students' doubts or by parallel chatter, all classes struggled to keep quiet and focus on the task. The repetition of answering the same set of emotions (in the TAG instrument) for 14 different characters may have also caused boredom and disinterest in the students. The whole set of scales took most participants between thirty and fifty minutes to complete. These factors may have caused what is known as neural fatigue, in which the repetition of the same stimuli for more than 40 minutes results in brain tiredness, boredom and sleepiness (Ioannucci et al., 2023).

Also, during the data collection process, I noticed that the students asked a lot of questions regarding emotional vocabulary and general interpretation (e.g., asking what is serenity, what are nuances). Portuguese students have showed a decrease of text reading and

interpretation skills, as well as a vocabular one (Faiões, 2023) in the latest years, which may explain the overall results of this study, since their capacity interpret the tasks and scales may not be up to the one needed to do so accurately.

Lastly, we found significant results when testing for the interaction between Valence and Gender, noting that female adolescents identified more positive situations ($M= 19.15$, $DP= 1.34$) than their male peers ($M= 17.70$, $DP= 1.55$), but less negative situations ($M= 15.63$, $DP= 1.52$) than them ($M= 17.13$, $DP= 1.76$). However, studies show that men experience more positive emotions than women (Shamin & Muazzam, 2018), and that young women experience more negative emotions than their male peers (Thomsen et al., 2005). The findings in this study are not congruent with other finds, and the attention and interpretation explanations mentioned above may have also influenced how the students answer the tasks.

Limitations

Two of the biggest limitations of this study are the size and the coverage of the sample. One factor that heavily affected this was the requirement for parental authorization for participating in this study, given that the sample consisted of minors. Teens that have negative attachment to their parents will probably be less likely to ask their permission to participate in activities (Nielsen et al., 2017).

Also factors like disinterest and lack of interpretation skills constitute a limitation to the precise measurement of any scale.

Future Directions

Since emotional granularity involves cognitive processes, it may be of interest to see if, instead of attachment, there is any relationship with, for example, cognitive empathy (Cuff et al., 2014) or other cognitive aspects of emotion.

It could also be interesting to use an emotional vocabulary test, like the Short Emotional Vocabulary Test for Adolescents (SEVTA) (Calero et al., 2025) or the Vocabulary of Emotions Test (VET) in its portuguese version (Costa et al., 2011), next time this type of instruments is used, to ensure that the participants have enough vocabulary to be able to answer the scales with accuracy, and are able to give more precise measurements for granularity.

The use of the same instrument but with a larger age sample of adolescents from 13 to 18 years old, in order to see if there are any age group differences could also be relevant.

Lastly, the continuation of the study in adolescents' emotional development should have into account aspects like emotional vocabulary, since the lack of it incapacitates future studies of obtaining realistic results.

Conclusion

This study found no evidence of a link between emotional granularity, attachment styles, or the quality of parental bonds. Although participants scored highly on emotional bond measures, results suggest granularity may be driven more by cognitive processes than by relationships. Narrow score ranges, a small and potentially biased sample, and a limited age spread reduced the reliability of findings.

While adolescents generally identified emotional valence with accuracy, they struggled with intensity and overall emotional differentiation, indicating the TAG instrument may require adjustment. Distraction, neural fatigue, and insufficient emotional vocabulary likely impacted responses, and gender-related results did not align with prior research.

Major limitations include the small sample size, parental consent-related sampling bias, and language comprehension challenges. Future studies should explore cognitive factors like empathy, assess emotional vocabulary, include broader age ranges, and refine measurement tools to more accurately capture adolescent emotional granularity.

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Appendix A

Questionário de Vinculação ao Pai e à Mãe (QVPM) – Versão Reduzida

Nunes, F., Mota, C. P., Costa, M., Assunção, R. S., & Matos, P. M. (2019)

Neste questionário vai encontrar um conjunto de afirmações sobre as relações familiares. Leia atentamente cada uma das frases e assinale com uma cruz (X) as respostas que melhor exprimem o modo como se sente com **cada um** dos seus pais. Responda em colunas separadas para o **pai** e para a **mãe**, tendo em conta as seis alternativas que se seguem:

Discordo totalmente ①	Discordo ②	Discordo moderadamente ③	Concordo moderadamente ④	Concordo ⑤	Concordo totalmente ⑥
			PAI		
			MÃE		
1. Os meus pais desencorajam-me quando quero experimentar uma coisa nova.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
2. Os meus pais conhecem-me bem.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
3. Só consigo enfrentar situações novas se os meus pais estiverem comigo.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
4. Confio nos meus pais para me apoiarem em momentos difíceis da minha vida.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
5. Estou sempre ansioso por estar com os meus pais.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
6. Eu e os meus pais é como se fôssemos um só.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
7. Em minha casa é problema eu ter gostos diferentes dos meus pais.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
8. Discutir assuntos com os meus pais é uma perda de tempo e não leva a lado nenhum.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
9. Sei que posso contar com os meus pais sempre que precisar deles.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
10. Os meus pais dificilmente me dão ouvidos.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
11. Os meus pais abafam a minha verdadeira forma de ser.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
12. Não sou capaz de enfrentar situações difíceis sem os meus pais.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
13. Os meus pais fazem-me sentir bem comigo próprio.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
14. Se tivesse de ir estudar para longe dos meus pais, sentir-me-ia perdido.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			
15. Eu e o meus pais temos uma relação de confiança.	① ② ③ ④ ⑤ ⑥	① ② ③ ④ ⑤ ⑥			

Appendix B

Escala de Avaliação do Reportório e Capacidade de Diferenciação Emocional (Kang & Shaver, 2004)

Adaptado para a População Portuguesa por Filipa Machado Vaz & Carla Martins (2008)

Instruções:

Utilizando a escala fornecida, por favor indique até que ponto cada afirmação o caracteriza, colocando o número respectivo na linha que precede a afirmação. Por favor seja sincero ao responder.

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7
Ligeiramente Um pouco Moderadamente Muito Bastante Extremamente Nada
Característico Característico

1. ___ Não experiencio muitos sentimentos diferentes no meu dia a dia.
2. ___ Costumo estabelecer distinções minuciosas entre sentimentos semelhantes (ex. deprimido e triste; aborrecido e irritado).
3. ___ Durante a minha vida, experienciei uma grande variedade de emoções.
4. ___ Tenho consciência das diferentes nuances ou sutilezas de uma determinada emoção (ex. deprimido e triste; aborrecido e irritado).
5. ___ Normalmente experiencio uma variedade limitada de emoções.
6. ___ Considero que cada emoção tem um significado muito distinto e único para mim.
7. ___ Experiencio uma grande variedade de emoções
8. ___ Estou consciente que cada emoção tem um significado completamente diferente.
9. ___ Eu não experiencio uma variedade de sentimentos no meu dia-a-dia.
10. ___ Sou bom a distinguir diferenças subtis no significado de palavras emocionais muito relacionadas.
11. ___ Sentir-me bem ou mal – estes termos são suficientes para descrever a maioria dos meus sentimentos no dia-a-dia.
12. ___ Se as emoções fossem cores, eu era capaz de notar até pequenas variações dentro de cada cor (emoção).
13. ___ Costumo experienciar uma grande variedade de diferentes sentimentos.
14. ___ Tenho consciência das sutilezas entre os sentimentos que experiencio.

Appendix C

Tarefa de Avaliação da Granularidade

Instruções: Lê cada um dos cenários abaixo, e responde na folha de respostas, utilizando um X, em relação à presença ou ausência de diferentes estados emocionais no respectivo cenário

Cenário 1

O Lucas tirou boa nota no teste de História, para o qual tinha estudado bastante. O seu melhor amigo Rui também teve boa nota, e agradeceu ao Lucas por lhe ter explicado a matéria na semana anterior, e terem treinado exercícios juntos. Quais são as emoções ou sentimentos que identificas no Lucas? E no Rui?

Estados emocionais	CENÁRIO 1									
	Lucas					Rui				
	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										
Raiva										
Contentamento										
Aborrecimento										
Entusiasmo										
Nojo										
Gratidão										
Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Cenário 2

O André está apaixonado por uma pessoa da sua turma. É a primeira vez que ele gosta de alguém, e acha que a pessoa também gosta dele. Decide contar à sua melhor amiga, a Clara, que começa a saltar e a sorrir quando recebe a notícia. Quais são as emoções ou sentimentos que identifica no André? E na Clara?

Estados emocionais	CENÁRIO 2									
	André					Clara				
	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										
Raiva										
Contentamento										
Aborrecimento										
Entusiasmo										
Nojo										
Gratidão										
Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Cenário 3

O Gonçalo chamou mãe à professora na aula sem querer, e agora todos da turma fazem troça dele. A Beatriz viu a situação e não achou bem os colegas gozar com o Gonçalo, mas também não o defendeu porque não queria que gozassem com ela. Quais são as emoções ou sentimentos que identifica no Gonçalo? E na Beatriz?

Estados emocionais	CENÁRIO 3									
	Gonçalo					Beatriz				
	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										
Raiva										
Contentamento										
Aborrecimento										
Entusiasmo										
Nojo										
Gratidão										
Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Cenário 4

O Manuel chama nomes à Francisca, e esta tira-lhe o telemóvel e atira-o para o chão. O Manuel empurra a colega com força, e esta responde gritando-lhe e dando-lhe um soco na cara. O Manuel fica a deitar sangue do nariz, e a colega vira-lhe as costas e vai embora a chorar. Quais são as emoções ou sentimentos que identifica no Manuel? E na Francisca?

Estados emocionais	CENÁRIO 4	
	Manuel	Francisca

	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										
Raiva										
Contentamento										
Aborrecimento										
Entusiasmo										
Nojo										
Gratidão										
Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Cenário 5

Na aula de Ciências, o professor está a dar matéria sobre o corpo humano. O Tomé está concentrado e a tirar apontamentos, e a Joana está ao seu lado a bocejar e a espreguiçar-se. O Tomé diz-lhe que devia prestar atenção, e esta diz-lhe que não gosta desta matéria. Quais são os sentimentos que identificas aqui?

Estados emocionais	CENÁRIO 5									
	Tomé					Joana				
	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										

Raiva										
Contentamento										
Aborrecimento										
Entusiasmo										
Nojo										
Gratidão										
Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Cenário 6

Na aula de Educação Física era dia de jogar futebol, e os alunos escolheram as equipas. A Sofia é muito boa jogadora, e por isso foi a primeira a ser escolhida. Já o João, que tem uma deficiência que o faz caminhar mais devagar, foi o último a ser escolhido. Quais são os sentimentos que identifica na Sofia? E no João?

Estados emocionais	CENÁRIO 6									
	Sofia					João				
	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										
Raiva										
Contentamento										
Aborrecimento										

Entusiasmo										
Nojo										
Gratidão										
Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Cenário 7

A Ana e o Jaime estão na cantina a almoçar. A Ana começa por comer a sopa, enquanto que o Jaime prefere comer o prato principal primeiro, e ambos conversam sobre o que fizeram na aula anterior. Acabam de almoçar e vão para o recreio. Quais são os sentimentos que identifica na Ana? E no Jaime?

Estados emocionais	CENÁRIO 7									
	Ana					Jaime				
	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente	0- Nada Presente	1 - Pouco Presente	2- Presente	3- Bastante Presente	4- Muito Presente
Admiração										
Raiva										
Contentamento										
Aborrecimento										
Entusiasmo										
Nojo										
Gratidão										

Insatisfação										
Felicidade										
Vergonha										
Amor										
Medo										
Orgulho										
Tristeza										
Serenidade										
Cansaço										

Appendix D

Table D.1: Summary of the results of the analysis of the data from the experiment. The table shows the results of the analysis of the data from the experiment. The table shows the results of the analysis of the data from the experiment.

FACULDADE DE **PSICOLOGIA E DE CIÊNCIAS DA EDUCAÇÃO**

