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XXXIV CICLO DEL DOTTORATO DI RICERCA IN

NEUROSCIENZE E SCIENZE COGNITIVE

FOSTERING EMOTIONAL INTELLIGENCE FOR THE PROMOTION OF PSYCHOLOGICAL WELL-BEING IN CHILDHOOD

Settore scientifico-disciplinare: M-PSI/08

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Abstract

Given the increase of mental health problems in youth, the promotion of mental well-being and the prevention of psychological maladjustment have become fundamental health priorities. Although several initiatives have been developed both to enhance and assess adjustment-related variables in the developmental ages, some weaknesses in the design, assessment and implementation of previous intervention programmes precluded a consensus on their effectiveness and successful features. To address some of these weaknesses, this dissertation aims: to identify specific variables that can play a crucial role in determining psychological well-being of school-aged children, with a specific focus on Emotional Intelligence (EI) (Study 1); to strengthen EI by implementing a brief intervention programme targeted to primary-school children (Study 2); to develop a new questionnaire for the assessment of situational coping in childhood, valuable for measuring the effects of school-based intervention programmes and, more generally, for expanding the knowledge on the mechanisms underlying youth functioning (Study 3). As regards the first two studies, results suggest that, with respect of cognitive (e.g., verbal and non-verbal intelligence) and adjustment-related variables (e.g., emotional self-efficacy and coping), EI contributes significantly to psychological well-being of children, and that a brief and non-intensive EI school-based programme is effective in increasing emotional knowledge and basic emotional skills in preadolescents. As regards Study 3, since the contingencies related to the pandemic Covid-19 precluded to collect data for the validation of the new coping questionnaire, only a detailed description of the initial steps for its development has been given. This PhD project draws attention toward some of the relevant variables involved in the promotion of psychological well-being of children, and highlights the importance of both fostering EI skills through school-based intervention programmes and implementing new measures to advance the knowledge on processes of adjustment in youth.

Chapter 1

Introduction

1.1. General Introduction

According to the World Health Organization (WHO), mental health is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2004). This definition reframed mental health on a continuum from an absence of disease to a general state of well-being, moving away from previous static conceptualizations (Khran et al., 2021). A significant implication of this shift of paradigm regards the relevance that is now attributed not only to the treatment of ongoing mental disorders, but also to the prevention of psychological maladjustment and to the promotion of optimal psychological functioning. Keyes (2006) identified three major components of positive mental health: *psychological well-being*, that includes a broad set of skills and self-perceptions, such as satisfaction with life and happiness, self-acceptance, coping efficacy, a sense of personal growth and environmental mastery; *emotional well-being*, that refers to the presence of positive, pleasant emotions, and the capability to deal successfully with negative feelings; and *social well-being*, that reflects the proficiency in engaging in positive interpersonal relationships.

It is well-recognized that the foundation of a good mental health is laid in the early years of childhood and adolescence (Stengård & Appelqvist-Schmidlechner, 2010). The improvement and maintenance of optimal functioning can shape future development and determine lifelong outcomes (Patalay & Fitzsimons, 2016), generating short- and long-term consequences both at the individual and the societal levels (Inchley et al., 2016). In the past years, the promotion of positive mental health during the developmental ages has become particularly prominent, given the increasing number of youngsters who experience psychological disorders (e.g., Bor et al., 2014; Collishaw, 2015), that have been estimated as affecting ~10–20% of the child and adolescent world population (Kieling et al., 2011). Behavioural, social and emotional problems may have detrimental impact on psychological adjustment of children, which generally refers to the process of adaptation to the environment, involves diverse areas of functioning, and is mostly related to school and family settings (Piqueras et al., 2019). These

problems may emerge early in life as a consequence of adverse life experiences, personal vulnerability, daily challenges, and specific demands connected to the various stages of development. In recent years, children and adolescents have been even more exposed to the onset of psychological symptoms, due to the spread of the pandemic Covid-19, that has provoked serious repercussions on daily lives, generated new sources of stress and required adaptation to unusual, constrained circumstances.

In order to prevent the onset of psychological symptoms and to promote positive functioning in youth, past research has directed attention toward the identification of the relevant factors that can contribute to positive mental health, which is a fundamental precondition for the implementation of appropriate initiatives targeted to improve adjustment outcomes (Bacter et al., 2021; Barry et al., 2013). Among all the variables, Emotional Intelligence (EI), self-efficacy and coping styles have been recognized as crucial ones in determining psychological well-being of children and adolescents (e.g., Caprara et al., 2006; Davis & Humphrey, 2012; Richardson et al., 2020). In particular, the construct of EI has received considerable interest in the past decades, and several studies have demonstrated its relationship with different outcomes related to youth functioning, such as happiness (Guerra-Bustamante et al., 2019), life satisfaction and self-esteem (Rey et al., 2011), and adaptive coping styles (Mavroveli et al., 2007). Given these results, conspicuous systematic research has emerged with the purpose of investigating whether psychological, emotional and social well-being of youngsters can increase by improving emotional competencies through the delivery of peculiar intervention programmes (Domitrovich et al., 2017). Several initiatives targeted to reinforce social and emotional abilities in youngsters have been developed within the general framework of Socio-Emotional Learning (SEL) (see meta-analysis by Durlak et al., 2011). The school environment has been found as the ideal setting of implementation of such programmes, as it is given the opportunity to numerous pupils to acquire and practice skills in inter-realistic situations (Masia-Warner et al., 2006). Over the past years, numerous studies documented that SEL programmes yielded positive effects in increasing youth emotional competence and prosocial behaviours, in reducing conduct problems and internalizing symptoms, and in

ameliorating scholastic performance (Durlak et al., 2011), at different levels of education (Puertas-Molero et al., 2020). Despite these promising findings, some critical issues have been raised as regards to the development and implementation of such types of programmes. First, SEL programmes show scarce adherence to rigorous experimental conditions, as they mostly rely on quasi-experimental designs in which absence of adequate controls and intact classrooms serving at experimental unit make it difficult to distinguish improvements due to the impact of the training from possible trends of development or confounding variables (Cheney et al., 2014; Zeidner et al., 2002). Second, SEL programmes cover a wide array of social, communication, and life skills not necessarily related to EI components, and this sparseness of content implies difficulties in identifying the distinctive characteristics that determine the success of the trainings (Zeidner et al., 2002). Also, in such programmes the employment of limited and unspecific measures for evaluating training outcomes precludes the detection of important changes in emotional well-being, leaves results vulnerable to biases, and limits the generalization of the findings (Cheney et al., 2014). In this regard, a proper exhaustive evaluation is fundamental in obtaining information not only on the possible improvements determined by the trainings, but also on the training features that require further refinement. Nevertheless, it is noticeable the scarcity of measures assessing EI and variables related to adjustment specifically designed for children, as most of the existing measures are downward extensions of evaluation tools created for adults, which can be less than ideal in capturing the complexity of some psychological facets that, in youngsters, are still under development. In addition, the circumscribed availability of assessment tools in specific language contexts, such as the Italian one, may limit an exhaustive and adequate evaluation of the variables of interest in various cultural environments.

Given the present state-of-the-art research, there is evidence that further investigation is needed to advance the understanding of the mechanisms and processes through which it is possible to improve psychological and emotional well-being in young people. To this aim, this dissertation intends to furnish a contribution, by addressing some of the previous mentioned issues and by providing new

findings that can enrich the existing knowledge on these topics. As outlined in the next paragraph and detailed in the various chapters, the present work describes the development and implementation of both a school-based intervention programme aimed at enhancing EI in children, and a new assessment tool to evaluate coping responses in childhood.

1.2. Dissertation Outline

The main goal of the present work is to advance the understanding on the components implied in the promotion of psychological well-being in childhood. Specifically, the aims of this dissertation are threefold: (1) to identify, among a series of variables, those that play a crucial role in determining psychological well-being of children; (2) to strengthen these variables and psychological well-being by implementing a brief intervention programme targeted at primary-school children; (3) to develop a new measure of coping that can expand the knowledge on the mechanisms underlying childhood functioning. In the present thesis, these aims are disclosed in three chapters describing three studies: two of them correspond to completed and published papers, the third one should be intended as a pilot study that has not been concluded yet due to the pandemic Covid-19 emergency, thus in need of further implementation.

Chapter 1 provides a systematic review of the theoretical and empirical investigations surrounding relevant constructs related to childhood psychological adjustment, such as Emotional Intelligence (EI), emotional self-efficacy, and coping. These peculiar variables are chosen as a matter of investigation because they are well-known in their associations with psychological well-being. Each construct is examined by delineating its shared definition, by reviewing the corresponding literature and existing assessment tools, and by exploring its relationships with psychological well-being. Particular attention is given to EI, the variable on which more emphasis was put in developing the intervention programme.

Chapter 2 illustrates the results of the first study, which explores, in a group of primary-school children, the relationships between a series of psychological variables (i.e., EI, emotional self-efficacy and

coping), cognitive variables (i.e., verbal and non-verbal intelligence), and psychological well-being. The unique contribution of EI, coping and emotional self-efficacy in determining childhood adjustment has already been established (e.g., Caprara et al., 2006; Mavroveli et al., 2007; Richardson et al., 2020), but the role played by cognitive variables remains still unclear (e.g., Richards et al., 2003). This study enriches the existing literature in that it simultaneously investigates the combined effects of a wide set of variables in order to estimate their contribution to psychological well-being in childhood.

On the basis of the findings of the first study, an intervention programme was developed and evaluated with the aim of enhancing variables linked to well-being in preadolescents, whose detailed description and results are presented in Chapter 3. Despite past research that demonstrated the effectiveness of targeted trainings in increasing youth adjustment (Barry et al., 2013), it has been claimed that most programmes have been limited by methodological and procedural flaws that precluded adequate effect evaluation and replication (Zeidner et al., 2002). In testing the effectiveness of an EI training directed at primary-school children, the present study can be considered innovative especially in the Italian context, in which studies evaluating the effects of school-based EI trainings implemented by following rigorous protocols are quite scarce.

Chapter 4 describes the first stages of the development of a new questionnaire aimed at evaluating the coping strategies adopted by school-aged children in dealing with specific stressful encounters. Although numerous coping inventories, especially targeted to adults, have been previously devised (for a review see Greenaway et al., 2015), many are similar in their attempt to assess the construct by relying on dichotomic categorizations (e.g., problem-focused vs emotion-focused strategies) and by evaluating dispositional tendencies to deal with stress rather than the interactions between these tendencies and the different nature of the stressors. The new measure, explicitly designed for children, is based on multidimensional models and situational approaches of coping and may represent a valuable tool that can enrich the assessment literature and advance the understanding of the coping process in youth. Unfortunately, data collection for the validation of the questionnaire has not been

completed due to the pandemic Covid-19, hence further work is required to refine the inventory and test its psychometric properties.

The last Chapter discusses the main implications of the studies and raises some new research questions to be addressed by future investigations.

1.3. Theoretical Background

1.3.1. Emotional Intelligence

Since it was first introduced in the 1990's by Salovey and Mayer (1990), the construct of Emotional Intelligence (EI) has become a popular topic in lay and scientific fields, as a response to the increasing importance given to the role of emotions in the everyday life. Over the past years, there has been a change in perspective as regards the function of emotions in cognitive processes. Traditionally, given their interference with rational decisions and behaviours, emotions were seen as disruptive and maladaptive responses subsequent to the lack of adjustment (Schaffer et al., 1940); in more recent perspectives, they have been re-evaluated as fundamental elements that can serve goal-directed processes, producing flexible thoughts and behaviours to reach goals and better adaptation (Moors & Fischer, 2019). The introduction of the EI concept has led to overcome the conflicting relationship between reason and emotion, by integrating two areas of psychological research: the domain of *cognition and affect*, concerning how emotions and cognitive processes interact, and the study of *intelligence*, which assumes the existence of a wide array of mental abilities rather than a unique factor traditionally identified as "g". In 1990 Salovey and Mayer defined EI as the "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). In the years that followed, researchers expanded the study of the construct, developing different definitions, models, and evaluation tools, all with the result of producing various and somewhat contradictory findings, which have generated confusion about what EI actually is, how it should be measured and increased. However, in recent years, other models

integrating all the various notions of EI have been proposed with the purpose of overcoming such fragmentation (e.g., Hughes & Evans, 2018). In the next paragraphs EI principal models and related assessment tools will be examined.

1.3.1.1. Models of Emotional Intelligence

Initial research identified two models of EI, distinguished on the basis of their theoretical approach: on one side, *ability EI* models conceived EI as a set of cognitive abilities related to the emotional domain, coexisting with other traditional forms of intelligence; on the other side, *mixed-model EI* combined EI cognitive abilities with an array of attributes, such as optimism, self-esteem, self-awareness, adaptability, belonging to the personality domain (Bar-On, 1997; Brackett et al., 2011; Mayer et al., 2000).

The theoretical framework of ability-based models refers to the pioneering work of Salovey and Mayer (1990; 1997), who developed a four-branch model of EI comprising "the ability to perceive accurately, appraise, and express emotions; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey, 1997, p. 10). In this model, the four areas are hierarchically organized, ranging from basic processes (i.e., perception and appraisal of emotions) to higher-level mechanisms (i.e., reasoning by using emotions and managing emotions) (Mayer & Salovey, 1997). EI abilities can be developed within each domain and, simultaneously, in the four distinct areas, from early childhood onward (Mayer et al., 2008): for example, in the branch of perceiving emotions the ability to recognize emotion expression in faces and gestures precedes the ability to detect the faking of emotional expressions (Mayer & Salovey 1997, p. 10); at the same time, skills in other areas emerge and develop, like the ability to regulate emotions, represented in the highest branch of the model since it is the most complex one.

Mixed models are typically represented by the Bar-On Emotional-Social Intelligence model (ESI), which describes EI as "interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands" (Bar-On, 2006, p. 14). These emotional and social competencies include five key components: interpersonal and intrapersonal skills, adaptability, stress management, and general mood.

A broader differentiation between EI models was further operated by Petrides and Furnham (2001), who distinguished *Trait EI* (TEI) from *Ability EI* (AEI), and claimed that the nature of the model is determined by the type of measurement, rather than by the underlying theoretical framework. TEI, also labelled as "trait emotional self-efficacy", is conceptualized as "a constellation of emotional self-perceptions located at the lower levels of personality hierarchies" (Petrides, 2010, p. 137), comprising, in the adult domain, several personality facets, i.e., adaptability, assertiveness, emotion expression, management, perception and regulation, impulsiveness, relationships, self-esteem, self-motivation, social awareness, stress management, trait empathy, happiness and optimism. According to Petrides and Furnham (2001), given that TEI pertains to the personality domain, it should be measured using self-report questionnaires which assess typical behaviour and inner emotional states, and reflect the subjective nature of emotions. Conversely, AEI, that pertains to the cognitive domain, ought to be measured employing maximum-performance tests, which ask respondents to reason on emotional problems whose solutions are evaluated by using criterion of correctness. The conceptual differences between AEI and TEI were supported by empirical findings that revealed very low correlations between the two types of measures, and different pattern of correlations for each of them and other constructs (e.g., AEI usually correlates with intelligence measures, whereas TEI usually correlates with personality dimensions) (e.g., Davis & Humphrey, 2014; Petrides et al., 2007).

The different conceptualizations of EI have generated concerns regarding various aspects connected to the construct, such as its definition, operationalization, measurement, and components. A first

concern is referred to the lack of clarity surrounding the EI definition, given that the term EI seems to reflect a multitude of distinct constructs rather than a unique one, and a clear concise denotation is still missing (see Cherniss, 2010). In addition, it has been debated whether EI self-reports are reliable tools, given that self-perceptions may be subject to bias and distortion, especially when used with developmental ages. On the other hand, also the usage of performance measures can be problematic, because of the difficulties in determining objectively correct responses to stimuli involving personal emotional content (Zeidner et al., 2003), and in capturing actual emotional abilities applied in real life contexts rather than explicit emotional knowledge (e.g., Cherniss, 2010; Roberts et al., 2010).

Both AEI and TEI models have been criticized also for the effective components that constitute the model itself. For instance, in the case of TEI, the model seems to share too much in common with already established constructs, especially those pertaining to the personality domain, like the Big Five dimensions (Roberts et al., 2010). As regards Mayer and Salovey AEI model (1997), the four-branch structure was not confirmed by recent studies: the overlap detected between Emotion Facilitation and Emotion Management branches led to propose a revised three-branch version, including Emotion Perception, Understanding and Management (see Fan et al., 2010; MacCann et al., 2014).

The debate about what model can be considered as more suitable for describing the EI domain has turned into the proposal of considering both AEI and TEI as complementary coexisting constructs, rather than contradictory, each reflecting a distinct aspect of the emotional sphere (Petrides et al., 2007). This suggestion, in more recent years, has been actualized in an attempt to integrate the different perspectives of EI, to clarify the conceptual confusion surrounding the construct, and to develop a new theoretical framework in which each EI approach furnishes a contribution in influencing individual behaviour (Hughes & Evans, 2018). Specifically, the Model of Affect-related Individual Differences (IMAID) abandons the conception of mixed models, because of its lack of theoretical clarity, and posits that both AEI and TEI (the latter re-defined as *affect-related personality traits*) may play a

specific role in influencing intrapersonal and interpersonal outcomes through the identification, selection, and implementation of emotion regulation strategies.

1.3.1.2. Measures of Emotional Intelligence

Since the concept of EI has appeared years ago, various tools for its assessment have been developed. The proliferation of multiple EI measures was due to the complexity faced by researchers both in operationalizing the construct, and in developing evaluation tools with good psychometric properties (O'Connor et al., 2019). Currently, it is possible to identify two methods of classifying EI measures. According to the distinction between AEI and TEI operated by Petrides and Furnham (2001), EI can be measured with either maximum performance tests, that assess emotional skills from a theoretical point of view, or self-report questionnaires, that assess beliefs and self-perceptions about personal emotional functioning. The distinction can be operated also in terms of the three EI "streams" proposed by Ashkanasy and Daus (2005): Stream 1 includes the *ability measures* based on Mayer and Salovey's model, Stream 2 refers to *self-report measures* based on Mayer and Salovey's model, and Stream 3 comprises tools that evaluate specific EI components (e.g., measures representing mixed models).

The presence of various EI assessment tools has raised a great debate concerning the most adequate approach for the measurement of the construct, and researchers and practitioners need to consider several issues in choosing the appropriate EI measurement for their research and practice. It must always be kept in mind the unfeasibility of searching an overall measurement of emotional functioning, given that different tools belong to related, yet distinct, underlying EI constructs (O'Connor et al., 2019).

Tools pertaining to the distinct theoretical perspectives present both advantages and disadvantages (for a complete review see O'Connor et al., 2019). For instance, performance-based tests are appreciated because they are engaging tasks that cannot be faked, as their answers can be evaluated as correct or incorrect; however, they are criticized because they are thought to have relatively poor psychometric

properties. Instead, self-report questionnaires are easier to administer, quick to answer and they represent a personal point of view, but are also susceptible to problems such as social desirability and poor introspective capacity.

The picture surrounding the assessment of EI in the developmental ages is even more complex, primarily because tools measuring EI in childhood represent downward extensions of adult measurements, that cannot be assumed as equally valid for the assessment of youth. The lack of measurements specifically designed and validated for young people may be due to the poor clarity in the operationalization of the construct, that have mirrored disagreement in measurement paradigms (Zeidner et al., 2002), and have generated difficulties in designing appropriate tools targeted to youngsters. In general, in the developmental ages the evaluation of psychological constructs such as EI may be complicated by issues related to the limited cognitive and introspective capacities of the children, that can reduce the reliability of their answers (Beitchman & Corradini, 1988), and grant less stability of facets (e.g., dispositions, skills, behaviours) susceptible to quick changes (Holaday et al., 1991).

In addition, the limited availability of EI tools validated in specific language contexts, such as the Italian one, reduces the choice of proper measures responding to specific research questions. Indeed, most of the instruments, particularly the recent ones, have hardly been translated beyond their original version and have rarely been tested, leaving the measurement of the construct in young people an open area of research (Bru-Luna et al., 2021).

In Table 1 some of the most popular measures used in the EI research are presented. Given the focus of the current work on the developmental ages, only measures for which an adapted version for youngsters exists have been reported. In Table 2 some of the most popular EI measures targeted to youngsters are reported, signalling the presence/absence of an Italian adaptation.

Table 1. Summary of major EI measures

MEASURE	THEORISTS	MODEL/TYPE OF MEASURE	BRIEF DESCRIPTION	YOUTH VERSION
Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)	Mayer et al. (2002)	AEI *Performance based test*	It assesses the four-branch model of EI with 141 items that are divided among 8 tasks (two for each branch)	MSCEIT-YRV (Mayer et al., 2014)
Swinburne University Emotional Intelligence Test (SUEIT)	Luebbers et al. (2007)	AEI *Performance based test*	It is a self-report measuring emotional skills, and consists of 64 items capturing 5 factors	SUEIT-EY (Lloyd et al., 2014)
Emotional Intelligent Scale (EIS)	Schutte et al. (1998)	AEI *Self-report*	It is a 33 item self-report measure that captures 3 of the 4 dimensions of Mayer and Salovey's EI model	EIS-adolescents (Grazzani Gavazzi et al., 2009)
Levels of Emotional Awareness Scale (LEAS)	Lane et al. (1990)	Emotional awareness *Self-report*	It consists of 20 scenes eliciting emotions, and it requires an individual to respond with open answers referring to self and others' feelings	LEAS-C (Bajgar et al., 2005)
Emotion Regulation Questionnaire (ERQ)	Gross & John (2003)	Emotion Regulation *Self-report*	It is a 10-item questionnaire which consists of two scales corresponding to two different emotion regulation strategies	ERQ-CA (Gullone & Taffe, 2012)
Trait Emotional Intelligence Questionnaire (TEIQue)	Petrides & Furnham (2001)	TEI *Self-report*	It assesses inner emotional states, dispositions and behaviour with 153 items, allocated to 15 distinct facets and 4 factors	TEIQue-Child Form (Mavroveli et al., 2008)
Trait Meta-Mood Scale (TMMS)	Salovey et al. (1995)	Perceived EI *Self-report*	It consists of 48 items capturing 3 dimensions related to beliefs and moods	TMMS-C (Rockill & Greener, 1999)
Emotional Quotient-Inventory (EQ-i)	Bar-On (1997)	Mixed models *Self report*	It is a self-report measuring emotional skills and consists of 133 items, allocated in 15 subscales and 5 composite scales	EQ-i:YV (Bar-On & Parker, 2000)

Table 2. Summary of EI measures for youngsters

MEASURE	MODEL/TYPE OF MEASURE	N ITEM	AGE	ITALIAN ADAPTATION	AUTHORS OF THE ITALIAN ADAPTTION
Mayer-Salovey-Caruso Emotional Intelligence Test Youth Research Version (MSCEIT-YRV)	AEI *Performance based test*	97	10-18	×	×
Swinburne University Emotional Intelligence Test Early Years (SUEIT-EY)	AEI *Performance based test*	66	9-13	×	×
Emotional Intelligent Scale (EIS)	AEI *Self-report*	33	adolescents	✓	Grazzani Gavazzi et al. (2009)
Test of Emotion Comprehension (TEC)	Emotion Comprehension *Performance based test*	22	3-11	✓	Albanese & Molina (2008)
Levels of Emotional Awareness Scale - Children (LEAS-C)	Emotional awareness *Self-report*	12	> 8	✓	Marchetti et al. (2010)
Emotion Awareness Questionnaire (EAQ)	Emotional awareness *Self-report*	30	> 9	✓	Camodeca & Rieffe (2012)
Emotion Regulation Checklist (ERC-I)	Emotion regulation *Others-report*	24	3-11	✓	Molina et al. (2014)
Trait Emotional Intelligence Questionnaire - Child Form (TEIQue-CF)	TEI *Self-report*	75	8-12	✓	Russo et al. (2012)
Trait Meta-Mood Scale - Children (TMMS-C)	Perceived EI *Self-report*	28	> 8	×	×
Emotional Quotient-Inventory	Mixed models *Self-report*	60	8-18	✓	Fancello & Cianchetti (2012)

Youth Version (EQ-i:YV)					

1.3.1.3. Relationships between Emotional Intelligence and other constructs

Regardless of the theoretical approach, the growing scientific interest in EI has been largely encouraged by several findings that furnished evidence on the potential role of EI in influencing outcomes in different life domains. For instance, in adult samples, EI was found to be associated with work outcomes, such as task performance and positive behaviours at work (Carmeli & Josman, 2006), positive social interactions with others (Lopes et al., 2004), academic performance (MacCann et al., 2020), attitudes and performance in sports (Laborde et al., 2016). Regarding general well-being, previous research demonstrated the positive association between EI and mental, psychosomatic and physical health (see meta-analysis by Martins et al., 2010). Particularly, in the domain of mental health, it has been widely established that, across life span, individuals with high levels of EI also report an optimal psychological functioning, operationalized as happiness (Furnham & Petrides, 2003), life satisfaction (Extremera & Rey, 2016), and subjective well-being (Sánchez-Álvarez et al., 2016).

Even for the developmental ages, the role of EI has been studied in the context of both specific life domains and more general indicators of health. Regarding specific life domains, research has particularly focused on the influence of EI on learning processes, with a prominent interest in determining whether EI may interplay with general intelligence in determining scholastic success and academic performance. Findings have confirmed the contribution of EI in predicting scholastic achievement even after controlling for concurrent variables such as IQ and personality (e.g., Downey et al., 2014; Di Fabio & Palazzeschi, 2009), as well as in influencing performance in specific disciplines like mathematics (e.g., Agnoli et al., 2012).

Another prominent area of research has investigated the association between EI and psychological functioning, the latter operationalized as adaptation, adjustment, life satisfaction, psychological and subjective well-being, providing evidence of the crucial role of both emotional competencies and

dispositions in determining positive functioning already from the initial stages of development. For instance, TEI was found as a significant predictor of youth psychological adjustment, demonstrating incremental validity over and above other variables like social and emotional problems (Piqueras et al., 2019). Also, TEI was shown to be negatively correlated to child depression, somatic complaints and maladaptive coping styles, and positively associated to adaptive coping styles (Mavroveli et al., 2007). Regarding AEI, it was established that specific abilities like managing and regulating emotions positively affected life satisfaction in adolescence, although this relationship was partially mediated by perceived stress, that represented a potential risk for the maintenance of well-being (Schoeps et al., 2019). Both AEI and TEI were found to exert positive effects on mental health, operationalized in terms of presence of internalizing and externalizing problems, with a mediator role of coping in determining the relationship between AEI and disorders (Davis & Humphrey, 2012).

Despite these promising results, the role played by EI in determining psychological well-being is still in need of further investigation. One reason is attributable to the presence of some recent findings, in which "dark effects" of higher EI, consisting in elevated stress reactivity and manipulative behaviours, emerged across interpersonal and intrapersonal functioning (see the review by Davis & Nichols, 2016). As suggested by the authors, future research should deepen *how* EI operate in determining positive outcomes, by testing more complex models, in which mediating or moderating effects of other variables can better explain the deployment of EI. Indeed, alongside EI, the concurrent role of other variables (e.g., general intelligence, coping) in explaining variance of psychological well-being should be taken into account, in order to shed lights on their simultaneous contribution to youth adjustment.

1.3.1.4. Development of Emotional Intelligence through trainings

Given the results highlighting the relevance of EI in everyday life, past research has debated whether EI can be taught through targeted intervention programmes and whether the obtained positive findings can be stable over time. Several studies conducted with adults supplied evidence on the positive effects

of EI training in improving EI over time (see meta-analysis by Hodzic et al., 2018), with programmes targeted to AEI showing significant higher effects than those targeted to TEI. Indeed, the conceptualization of EI as a set of personality facets may imply a temporal stability of traits over time and across situations (Petrides et al., 2007), therefore self-perceptions and dispositions in the emotional domain may be more challenging to modify than emotional skills, especially in adulthood.

Research conducted for the developmental ages also showed promising results, demonstrating the effectiveness of EI trainings in enhancing not only EI but also cognate variables, in both clinical and non-clinical settings. Regarding clinical settings, Larsson and colleagues (2020) detected that an intervention targeted at adolescents with mental disorders was effective in improving emotional regulation and awareness and in reducing alexithymia, whereas Ghelbash and colleagues (2021) found positive effects of an EI intervention in social skills of orphaned and abandoned adolescents. Most of the studies on EI training efficacy have been conducted in non-clinical settings, particularly in the educational environment, which is arguably the most suitable context for the implementation of such programmes, because of the contribution offered by the educational system to the development of skills, aptitudes, and values (Zeidner et al., 2003). Most of the current international school-based trainings have been developed within the general field of Socio-Emotional Learning (SEL), which refers to the knowledge, attitudes and skills that youngsters acquire through social and emotional education and activities. Such programmes vary in their approaches, apply a broad series of strategies, and foster emotional competence by directly teaching social and emotional skills, or by creating a positive environment that can elicit the emotional competence acquisition (Domitrovich et al., 2017). Previous research documented the efficacy of SEL programmes in improving all levels of social and emotional competencies in students, by enhancing prosocial behaviours and reducing internalizing problems (see meta-analysis by Durlak et al., 2011). However, as previously mentioned, these programmes integrate a wide array of components (e.g., life skills, social awareness, conflict resolution abilities) which are not strictly related to the domain of EI (Zeidner et al., 2002), and this sparseness

of content limited the identification of the advantageous features that can determine outcomes from the training. In addition, most of these programmes suffer from methodological and theoretical flaws (e.g., inadequate controls, scarce internal validity, poor assessment, absence of a solid conceptual framework), reflecting ambiguous rationales and inaccurate procedures, which can raise concerns regarding the reliability and generalization of the findings (Zeidner et al., 2002). Despite these practical challenges, the implementation of such programmes in the school context should be actively encouraged. As a recent meta-analysis stated, 90% of EI school-based trainings were effective in enhancing various domains of youth functioning, such as emotional competence, social skills, and scholastic achievement, with major benefits detected for medium length programmes targeted to primary school children (Puertas-Molero et al., 2020). For instance, in international contexts, it has been found that two-year intervention programmes were effective in increasing EI in preadolescents (Viguer et al., 2017) and mental health in adolescents (Ruiz-Aranda et al., 2012), whereas a 12-week EI training was successful in improving EI in younger children (Ulutas & Ömeroğlu, 2007). Most of the few studies that have been conducted in the Italian context confirmed the effectiveness of targeted programmes in enhancing EI in high-school students (Di Fabio & Kenny, 2011), emotional competence in preschoolers (Di Maggio et al., 2017; Grazzani & Ornaghi, 2011), and in decreasing emotional problems for primary-school children (Crescentini et al., 2016). Conversely, the presence of some findings that did not support the effectiveness of school-based programmes in improving emotional competence in students (e.g., Renati et al., 2011; Clarke et al., 2014) suggested that further investigations are required in order to identify the optimal characteristics that can determine the success of EI trainings. Simultaneously, future research should address issues connected to methodological procedures and theoretical aspects that, in previous evaluations, have emerged as potential weakness points of these programmes, and that preclude objective evidence of successful schooling of EI (Zeidner et al., 2002).

In conclusion, the beneficial effects of EI targeted programmes seem to encourage the application of these interventions in educational settings, however, additional research is required both to discern their "successful ingredients", and to determine individual and situational elements that can interplay in facilitating or impeding the process of change in emotionally related components vehiculated by these initiatives.

1.3.2. Emotional Self-efficacy

In general, the term self-efficacy refers to "people's judgement of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). A crucial core of this definition regards the difference between individual beliefs concerning the skills required to reach a desired outcome and the effective skills they possess. Actual capabilities are essential to undertake a certain task, but also beliefs regarding these capabilities play a crucial role in achieving outcomes, so much as they are considered as proxy indicators of effective performance (Bandura, 1994). Indeed, individuals who are self-confident about their competence, are more prone to make efforts, develop strategies, engage in goal-directed behaviours that can lead them to potential success, and they are more motivated to improve their abilities when failure occurs. Personal beliefs about one's capabilities may exert important effects on diverse spheres of functioning, for better and for worst, as they affect behaviours, aspirations, expectations, tendencies, emotions.

Given that individual skills may be differently expressed among life domains and even in the context of specific tasks of the same domain, also have self-efficacy beliefs that can be differentiated among diverse realms of functioning, situations and tasks: individuals can judge themselves as competent in a specific area (e.g., job performance) but less competent in another one (e.g., social relationships), or vice versa (Bandura, 2006). Among the diverse domain-specific types of self-efficacy, considerable attention has been given to *emotional self-efficacy*, that was defined as the self-efficacy beliefs in one's own emotional functioning, with particular reference to skills concerning perception, expression,

understanding and management of emotions (Kirk et al., 2008). Saarni (1999) posited that emotional self-efficacy represents a key element in the development of emotional competence: beliefs on emotional efficacy contribute to promote personal integrity by influencing emotional responses, implementing emotional knowledge and regulating emotional experience toward desired outcomes. Indeed, when individuals perceive themselves as emotionally efficient, they are more open to accept their emotional experience, and are able to deal with negative emotions, thus prevent from becoming overwhelmed.

Even though it represents perceptions related to emotional skills, the construct of emotional self-efficacy seems to differ from the concept of EI, both with AEI and TEI conceptualizations. Past research demonstrated that, although they both mirror the same underlying dimensions, emotional self-efficacy and AEI represent two distinct approaches (Kirk et al., 2008), as the former includes personal beliefs in one's emotional ability, not the ability per se. This distinction is also supported by different relationships with other constructs, i.e., AEI is associated with general intelligence and emotional self-efficacy with personality dimensions (Dacre Pool & Qualter, 2012; Mayer et al., 2008). The possible overlap between emotional self-efficacy and TEI has been even more debated, given that the latter, also termed as "trait emotional self-efficacy", concerns perceptions of one's emotional world (Petrides & Furnham, 2001). However, Kirk and colleagues (2008) argued that the two constructs should be kept as distinct, since TEI embraces a wider set of emotional perceptions and dispositions (e.g., adaptability, impulsiveness, self-esteem) which are not encompassed in the more restricted emotional self-efficacy domain. In addition, according to the efficacy perspective, beliefs in emotional functioning may be acquired and enhanced through learning, thus are more malleable than relatively stable, long-term predispositions on emotional traits (Choi et al., 2013).

A further development in the field of emotional self-efficacy has been implemented by Bandura and colleagues (2003), who considered self-efficacy beliefs in the more specific domain of emotion regulation, introducing the construct of *regulatory emotional self-efficacy*. By adopting the popular

distinction between positive and negative affect (Russell & Carroll, 1999), self-efficacy beliefs in emotion-related self-regulation can be distinguished in perceived capabilities in modulating the expression of negative feelings and impulsivity, and in appropriately experiencing and expressing positive affects (Caprara & Gerbino, 2001). Specifically, self-efficacy in regulating a negative affect refers to beliefs in one's capability to alleviate negative emotions (e.g., anger, fear, frustration) once they are aroused in response to adversities, and to prevent one from being overwhelmed by these emotions; self-efficacy in expressing positive emotions concerns beliefs in one's capability to experience or to allow oneself to express positive emotions (e.g., joy, enthusiasm, pride), in response to success or pleasant events (Caprara et al., 2008).

As for the other self-efficacy domains, individual perceptions in one's capability to regulate emotions may influence actual skills: it is likely that people who believe in their capabilities to handle the affects, especially in the context of situations generating perturbing emotions, are effectively able to do so. The implementation of adequate perceptions of capability to handle emotions becomes particularly prominent in specific phases of development, in which individuals may benefit from the application of appropriate strategies of regulation in facing various emotional challenges connected to growth. Indeed, by investigating the longitudinal developmental trajectory of regulatory emotional self-efficacy beliefs from late adolescence to emerging adulthood, Caprara and colleagues (2013) found that self-efficacy in expressing positive emotions increases over time, whereas self-efficacy in managing negative emotions tends to decrease. These results, which show the higher emotional vulnerability of specific developmental stages, highlight the importance of strengthening both the actual skills of emotion regulation and self-perceptions of these skills, in order to promote an adequate emotional balance and to prevent the onset of emotional problems.

1.3.2.1. Measures of Emotional Self-efficacy

According to Bandura (2003), self-efficacy scales, which reflect judgements of capability, are linked to the behavioural factors over which people can exercise some control: individuals, who are presented

with items portraying different levels of task demands, have to rate the strength of their perceptions in their ability to execute specific tasks. Given that people differ in the areas in which they cultivate their efficacy, past research has developed specific measures assessing beliefs of efficacy in various life domains (e.g., academic, interpersonal, career self-efficacy). Concerning self-efficacy in the emotional domain, scales were developed with particular caution for the possible overlap between emotional self-efficacy and EI. Kirk and colleagues (2008) individuated a stronger correlation of a new measure of emotional self-efficacy with TEI rather than AEI, and argued that emotional self-efficacy may be considered as a specific component of the broader construct of TEI, although the two concepts are not identical. Caprara and colleagues (2008), in validating a measure of regulatory emotional self-efficacy, detected moderate correlations with measures of positive and negative affect, confirming the distinction between the perceptions of one's abilities in managing emotions and reported emotional states.

In the context of the developmental ages, the assessment of self-efficacy is generally confined to adult scales that have been adapted to younger people. The existing scales are targeted to both evaluate a global sense of self-efficacy, tapping general areas of functioning (e.g., Muris, 2001), and self-efficacy in specific domains, such as academic and interpersonal ones (Jinks & Morgan, 1999; Wheeler & Ladd, 1982). As specifically regards the emotional domain, scales were developed to investigate either beliefs of capability of general emotional functioning, based on precise theoretical models (e.g., AEI) which encompass various emotional abilities (e.g., Qualter et al., 2015), or judgements of capability related to distinct emotional skills, such as emotion regulation (e.g., Caprara et al., 2008).

However, it must be noticed that, among emotional self-efficacy measures, very few scales have been targeted to young children, either in an international or in the Italian context (see Table 3). One reason may be ascribable to the possible difficulty in operationalizing the construct in children, who may still have to mature the capacity to reflect on their emotional states, and they may encounter difficulties in evaluating the capabilities related to the emotional domain. The implementation of emotional self-

efficacy measures for children, however, needs to be recognized as a goal for future research, because an examination of children's perceptions of their emotional capabilities, which are still in a phase of development as well as their actual skills, may contribute to the understanding of their emotional functioning.

Table 3. Summary of measures of Emotional Self-efficacy and Regulatory Emotional Self-efficacy designed for youngsters

MEASURE	AUTHORS	TYPE OF MEASURE	N ITEM	AGE	ITALIAN ADAPTATION	AUTHORS OF THE ITALIAN ADAPTTION
Youth Emotional Self-Efficacy Scale (YOUTH-ESES)	Qualter et al. (2015)	Self-report	27	> 11	×	×
Emotional Self-Efficacy (ESE)	Muris (2012)	Self-report	8	14-17	×	×
Regulatory Emotional Self-efficacy scale – Negative and Positive (RESE)	Caprara et al. (2008)	Self-report	8+7	> 14	✓	Caprara et al. (2008)

1.3.2.2. Relationships between Emotional Self-efficacy and other constructs

Emotional self-efficacy seems to be a crucial factor in sustaining the development and implementation of appropriate competencies (e.g., emotion regulation) that can be employed to achieve desired goals, and can contribute to augment a personal sense of well-being (Bandura et al., 2003). For this reason, past research has investigated the role played by emotional self-efficacy, with particular reference to emotion regulation, in determining outcomes related to either different domains of functioning, such as academic performance and interpersonal relationships, or to more general aspects of adjustment (for a review, see Bandura, 1997). However, it must be noticed that such studies have focused especially

on adulthood and adolescence, whereas few studies have involved children, probably due to the lack of measures directed to assess the construct in early stages of development. Positive effects of emotional self-efficacy in determining psychological well-being of adolescents were largely demonstrated: Caprara and colleagues (2006; 2013) found that emotional self-efficacy contributed concurrently and longitudinally to subjective well-being, operationalized as positive thinking and happiness, and further confirmed its effect on various indicators of adjustment (i.e., irritability, aggression, anxiety and depression). Bandura et al. (2003) determined that a strong sense of efficacy in managing emotions in adolescents acted in concert with other forms of self-efficacy (i.e., academic, resistive and empathic self-efficacy) in affecting depression, delinquent conduct and prosocial behaviours.

Given that adaptive functioning requires discriminative regulation of emotions, research has also focused on investigating the distinct role of positive or negative affect beliefs on outcomes. Specifically, self-efficacy in expressing positive emotions seems to contribute to promote adolescent prosocial behaviour: a positive impact on both the management of social relationships and engagement in others' emotional experiences (Caprara & Steca, 2005) was found, as well as a negative relationship with verbal and physical aggression toward others (Mesurado et al., 2018). As regards self-perceptions in regulating perturbing emotions, it was demonstrated that a strong sense of efficacy was associated to reduced anxiety, lower depression (Caprara et al., 2008) and to an increased emotional stability (Caprara et al., 2013). Specific findings were detected in considering gender differences in the association between self-appraisal of efficacy and depressive symptoms: female adolescents reported more distrust in their capabilities of regulating negative emotions and more propensity to depression (Bandura et al., 2003). Research has also examined possible effects of beliefs in managing emotions on psychological adjustment, revealing distinctive patterns of relationships. Precisely, self-efficacy in dealing with anger and irritation was found negatively related to irritability, self-efficacy in handling sadness was associated to lower depressive symptoms, self-efficacy in managing fear predicted,

instead, higher levels of fearful affects, and self-efficacy in regulating shame was linked to intense shyness (Caprara et al., 2013). Overall, these findings suggest the possible contribution of emotional self-efficacy in determining youth adjustment, however, further investigations are required to corroborate these results and to extend the knowledge on these relationships to earlier phases of development.

1.3.3. Coping

According to the transactional theory, psychological stress is a complex phenomenon that refers to a dynamic relationship between the individual and the environment, which is perceived as challenging, threatening or potentially harmful (Lazarus & Folkman, 1984). The two processes of *cognitive appraisal* and *coping* are considered as critical mediators in the relationship between stressful events and outcomes. Cognitive appraisal is the process through which the person ascribes a meaning to a potentially negative event, evaluating its danger to personal well-being and what can be done to overcome or prevent the possible negative consequences. Coping is the process which involves "constantly changing cognitive and behavioural efforts to manage external and/or internal demands that are appraised as taxing or exceeding the resources of a person" (Lazarus & Folkman, 1984, p. 141). In this perspective, coping is *process-oriented*, because it refers to the individual's personal reaction to a specific stressor; *contextual*, as it is related to the personal appraisal of the stressor and to the perceived personal resources to deal with it; *not appraisable* as positive or negative, since it regards the personal efforts to manage stressful encounters independently by the success in doing so.

By examining its definition, coping seems to share aspects in common with other popular concepts, as *emotion regulation* and *resilience*. However, despite of their similarities, research in the field has claimed the need to consider these constructs as distinct. As regards emotion regulation, the term describes the process by which individuals influence the occurrence, timing, nature, experience, and expression of their emotions (Gross, 2013). Although the regulation of emotions and coping are both

processes in which controlled, purposeful efforts are applied to resolve a stressful situation, they can be distinguished for a series of reasons. First, emotion regulation specifically involves responses targeted to the generation and the modulation of emotional experiences, whereas coping encompasses efforts to address both emotional and non-emotional goals. Second, emotion regulation strategies can be implemented even outside the context of demanding situations (e.g., for instance, in some circumstances it may be required to manage positive emotions), whereas coping responses are activated primarily in front of stressful events. Third, the managing of emotions is a general process circumscribed in time (e.g., managing anger during an interpersonal conflict), whereas coping can have short but also long-term goals (e.g., adjusting to move to a different country) (Compas et al., 2014; Marroquín et al., 2017).

The term resilience refers to "a dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar et al., 2000, p. 543). Although both coping and resilience focus on responses to stressful circumstances, the two concepts can be distinguished for two main reasons. The first regards the outcomes of the process, given that coping involves the adoption of efforts without reference to their efficacy, whereas resilience concerns the success in the application of those efforts and results in a positive adaptation (Compas et al., 2001). The second reason refers to the objective characteristic of the stressful circumstances, because resilience regards the exposure to undeniable severe adversities and threats (Luthar et al., 2000), whereas coping may encompass also challenges that are less critical, although personally evaluated as demanding.

In the same domain of coping, there is a cardinal distinction between *coping strategies* and *coping styles*, which are often improperly used as interchangeable terms. Coping strategies are cognitive or behavioural efforts adopted in particular stressful episodes, that can vary across time and context depending on the nature of the stressful encounter. Coping styles are methods of coping characterizing personal reactions to stress that are preferred and selected by individuals because they are consistent with personal values, beliefs, and goals (Compas et al., 2001).

Over the past years, several efforts have been applied with the purpose of clarifying the functions of coping, which have been summarized in dichotomic representations (that will be discussed in the next paragraph). The application of coping strategies serves various functions, above all eliminating potentially harmful environmental conditions for maintaining well-being. In this regard, it has been debated whether coping strategies can be classified in terms of their value for the psychological adaptation, distinguishing between adaptive or maladaptive ways of coping. Adaptive coping responses are usually associated to more positive outcomes because they consist in planning concrete solutions to deal with the problem. Maladaptive responses are traditionally linked to unfavourable outcomes, as they implicate a search of immediate relief from negative emotions by disengaging from the stressor. However, this distinction can be improper, as the functional value of the coping process cannot be separated from the context in which it occurs (Lazarus & Folkman, 1984), and even strategies usually considered as less adaptive (e.g., different kinds of avoidance) can be seen as functional in the short term or in specific circumstances, especially when a major unchangeable stressor is encountered.

1.3.3.1. Models of Coping

A large amount of past research has focused on individuating the categories of coping, quite a challenging task, given the presence of a broad variety of coping strategies that can be adopted in different situations (Skinner & Zimmer-Gembeck, 2007). Three are the most used dimensions for classifying coping: *problem-focused* vs. *emotion-focused* coping, *primary* vs. *secondary control* coping, and *approach* vs. *avoidance* coping (Compas et al., 2001).

Lazarus and Folkman (1984) first proposed the distinction between problem-focused and emotion-focused coping, referring to the difference in the functions of coping responses. Problem-focused coping includes responses directed at changing the circumstances responsible for the stress (e.g., problem solving, seeking for information, decision making), whereas emotion-focused coping

involves responses aimed at managing the emotional distress connected to the demanding situation (e.g., cognitive reappraisal of the stressor, avoidance, distraction, social withdrawal). This operationalization has been widely used in research, especially in the developmental ages, however it is not exempt from criticism. One concern regards the lack of clarity surrounding this distinction, as some coping strategies can be ascribed at both categories. For instance, moving away from an interpersonal conflict may serve the emotion-focused goal of quieting oneself, but also the problem-focused purpose of thinking about an alternative resolution to the disagreement (Compas et al., 2001). The primary-secondary control coping distinction, operated by Rothbaum and colleagues (1982), focused on both the nature of coping responses and the goals underlying the responses (Compas et al., 2001). Primary control coping refers to efforts directed either at altering objective stressful events (e.g., problem solving) or at managing one's emotions (e.g., expression of emotions), whereas secondary control coping includes attempts to fit to the environmental conditions (e.g., acceptance of the situation, cognitive restructuring). This distinction has the advantage to include strategies, like acceptance and adjustment, which are functional at reducing stress without representing active attempts to resolve problems, however it presents the disadvantage of excluding various types of disengagement coping, like wishful thinking or denial (Compas et al., 2001; Skinner et al., 2003).

An alternative theoretical framework suggested by Roth and Cohen (1986), focused on the orientation of an individual's attention, distinguished between approach and avoidance coping. In the case of approach strategies, an individual's attention and efforts are directed toward the source of stress or one's emotions and thoughts; on the contrary, avoidant responses are oriented away from the demanding situation or one's inner states and thoughts. A broader variant of the above distinction was made between *engagement* and *disengagement* strategies, in that avoidance is not the unique strategy in which it is possible to disengage (Compas et al., 2001). For instance, cognitive distraction, that consists in redirecting attention toward an alternative target while maintaining awareness of the existing problem, is not considered as purely avoidance but it is a form of disengagement. Despite its

popularity, the approach-avoidance dimension has proven to not be comprehensive of several possible categories of coping, excluding, for instance, rumination, observation and accommodation. In addition, disagreement has emerged on how to classify specific strategies, like support seeking, that can orient an individual's attention away from the stressor and toward other individuals (Skinner et al., 2003).

As emerged above, dichotomic classification of coping strategies, although largely employed in the research, are too simplistic and not exhaustive in representing all sets of coping strategies, and may not capture the different relationships that exist between coping and other variables (Ayers & Sandler, 1996). In their analysis of the structure of coping, Skinner and colleagues (2003) suggested a hierarchical system for the classification of coping, in which coping instances, i.e., situation-specific responses to stress, are allocated at a basic level, and adaptive processes, that mediate the link between stress and its consequences, are placed at the highest level. At an intermediate level, it is possible to distinguish between "ways of coping" (e.g., support-seeking, effort exertion, denial, passivity), described as lower-order categories and referred to as recognizable action types, and "families of coping" (e.g., approach, accommodation, emotion-focused coping), identified as the highest order-categories and consisting of action tendencies or motivations underlying actions (Skinner et al., 2003). This hierarchical classification has helped in interpreting the complex structure of coping, and may facilitate further investigation of coping functions and development, when analysing, for instance, changes in the adoption of a particular family of coping that occurs with age.

In regard to coping during the developmental ages, early research has primarily employed adult-based models and measures of coping, underestimating the importance of adopting a lifespan developmental perspective (Compas, 1998). It must be considered, indeed, that ways of coping adopted by youngsters can be influenced not only by individual differences due to temperament and parenting approaches, but also to the psychological and social changes occurring in specific stages of development. For instance, from early to middle childhood, efforts of emotion regulation, like seeking for support or withdrawal from stressors, are the most displayed strategies. As cognitive capacities mature, with

improvement in language and metacognitive skills, children start using more complex strategies, like cognitive restructuring and problem solving, and they become more selective in using already known strategies, like social support. In late childhood and adolescence, coping repertoire increases and becomes more differentiated, with a more articulated ability in matching coping responses to stress characteristics (Compas et al., 2001).

In studying coping in youth, additional factors need to be addressed, such as *types of stressors* and *controllability*. Critical events that can be encountered by children and adolescents may differ from those faced by adults, and can be distinguished in *normative* (or minor life) and *not normative* (or major life) events: the former usually regards daily circumstances, as interpersonal conflicts or failure at school, the latter are related to events that occur unexpectedly, like illnesses or the loss of a family member. Both minor and major stressors have been shown to increase when entering adolescence, displaying significant relationships with symptomatology. Recurring minor events, which usually regard difficulties at school, family issues, and troubled relationships with friends (Spirito et al., 1991), were found to exert a greater impact on both externalizing and internalizing problems, rather than single major events (Sieffge-Krenke, 2000).

Stress controllability is another prominent factor for understanding the coping process and interpreting the relationship between coping and psychological functioning in youth. Controllability of a stressor is described as the degree to which the consequences of a stressful situation can be prevented or eliminated by the individual, who activates his/her abilities and resources to deal with it (Clarke, 2006). *Objective controllability* and *perceived controllability* are two different aspects of the same phenomenon: objective controllability refers to observable events and circumstances with demanding connotations, whereas perceived controllability concerns the personal beliefs about controllability of events, and can change as a consequence of the perceived effectiveness of personal resources in modifying environmental conditions. Examples of stressors objectively considered as controllable are arguments with peers, conflicts with siblings, difficulties in completing schoolwork, whereas examples

of stressors considered as uncontrollable are parental discord, friend's moving away, serious health problems (Clarke, 2006). Past research has focused more on the role played by perceived controllability in influencing a youngster's choice of coping strategies, showing that problem-focused strategies are more employed rather than emotion-focused strategies when stressors are perceived as controllable (Folkman, 1984), and that the positive association between problem-focused coping and control beliefs emerges quite early in development (Compas et al., 1991).

As it has been pointed out in the coping research for adulthood, the dichotomic categorizations of coping do not seem adequate in capturing the multidimensional connotation of the process, thus other efforts have been made to develop models that better represent the nature of coping in youth. Using confirmatory factor analysis to test conceptual models of the structure of coping, Ayers and Sandler (1999) elaborated a multidimensional model in which children's strategies were subsumed under the following five dimensions: Problem-focused strategies and Positive cognitive restructuring (both considered subclassifications of active coping), Support-seeking strategies (differentiated in problem-focused and emotion-focused support), Distraction and Avoidance strategies (both distinguished in cognitive and behavioural). The multidimensional nature of coping was highlighted by later studies, in which it was revealed that youngsters rely mainly on strategies derived from four categories, i.e., problem-solving, support-seeking, distraction and escape, and from two other types of strategies, i.e., accommodation and self-reliance, adopted on the basis of age and nature of stressors (Zimmer-Gembeck & Skinner, 2011). Such types of conceptualizations present the advantage of better representing the diversity and complexity of the ways in which children and adolescents cope with stress, and encourage further investigations concerning the development of adequate measures able to capture the structure of coping.

1.3.3.2. Measures of Coping

Over the past decades considerable efforts have been made to measure coping responses in the context of general and specific stress sources. Despite the proliferation of coping scales and the gradual

improvement in their conceptual and psychometric properties, some critical issues have not been resolved by the current operationalization (Livneh & Martz, 2007). Indeed, the existing measures targeted to adults and adolescents evaluate different types of strategies, styles and responses, reflecting the challenge in providing a clear definition and operationalization of the construct, and in comparing and integrating findings across studies. A first key point is related to the dimensionality of the construct, because coping inventories may investigate a broader or more limited number of dimensions, thus rely on different levels of abstractness (Livneh & Martz, 2007). Another issue involves the possible examination of coping at two distinct levels, *dispositional* or *situational*, which requires a selection and employment of different tools depending on the purpose of the research. Measuring coping styles as dispositional tendencies relatively stable across situations presents the advantage of capturing predictable differences between individuals but also the disadvantage of ignoring variability in behaviour when facing specific challenges. Assessing coping as a dynamic process that varies across situations allows the researcher to examine the flexibility of responses, but it requires that methodological complexities be addressed, like the representativeness of the stressor or situational characteristics generating the variability in the response (De Ridder, 1997). Lastly, in evaluating coping it is necessary to take into account the event-reference, as some coping measures ask participants to imagine fictitious situations, whereas others require them to recall coping efforts applied in real life events (Livneh & Martz, 2007). By asking people to frame hypothetical events, it is possible to reach an improved internal validity, but a deeper analysis of the context in which coping responses are adopted is precluded; in contrast, although context-specific research allows for an in-depth investigation into the coping process, it should be considered that the same experience may have unique personal significance for each individual, thus complicating comparability between situations. The measurement of coping in childhood may be even more complicated, due to various problems, among all the scarce availability of evaluation tools showing good psychometric properties (Compas et al., 2017), especially in specific language contexts. In coping evaluation, past research has employed

different types of measures, representing not only children's view but also perspectives of other observers, in order to capture differences in coping responses to which specific informants have access (Compas et al., 2001). Currently, among the various approaches used to assess ways of coping in childhood (i.e., self-report questionnaires, semi-structured interviews, observations of behaviour, and reports of significant others), self-report questionnaires show better psychometric properties, especially scales that include larger numbers of items. However, problems involving clarity and specificity of items, lack of theoretical coherence, overlap between measures of coping and other constructs (e.g., emotion regulation) and identification of differences between coping goals and strategies still need to be addressed by current and future research (Compas et al., 2001). In Chapter 4, which is specifically dedicated to this construct, a deeper examination of the coping measurement will be discussed.

In Table 4 some of the most popular coping measures targeted to youngsters are reported, signalling the presence/absence of an Italian adaptation.

Table 4. Summary of measures of Coping designed for youngsters

MEASURE	AUTHORS	APPROACH/ TYPE OF MEASURE	N ITEM	AGE	ITALIAN ADAPTATION	AUTHORS OF THE ITALIAN ADAPTTION
Coping Responses Inventory-Youth Form (CSI-Y)	Moos (1993)	Situational *Self-report*	48	12-18	✓	Scozzari et al. (2015)
Kidcope	Spirito et al. (1988)	Situational *Self-report*	10	7-12	×	×
Coping Across Situations Questionnaire (CASQ)	Seifgge-Krenke (1995)	Situational & Dispositional *Self-report*	20	12-20	✓	Menna et al. (2010)
Responses to Stress Questionnaire (RSQ)	Connor-Smith et al. (2000)	Situational & Dispositional *Self-report*	57	11-19	×	×

Children's Coping Strategies Checklist-Revision1 (CCSC-R1)	Ayers & Sandler (1999)	Dispositional *Self-report*	54	9-14	✓	Camisasca et al. (2012)
Coping Scale for Children and Youth (CSCY)	Brodzinsky et al. (1992)	Dispositional *Self-report*	44	10-15	×	×
School Ager's Coping Strategy Inventory (SCSI)	Ryan-Wenger (1990)	Dispositional *Self-report*	25	8-12	×	×
Coping Inventory of stressful Situations (CISS)	Endler & Parker (1999)	Dispositional *Self-report*	48	16-18	✓	Sirigatti & Stefanile (2009)

1.3.3.3. Relationships between Coping and other constructs

Given that coping is a process of attempting to deal with potentially harmful stressful situations, past research has focused attention on investigating the relationship between coping and mental health. Specific research questions considered the adoption of specific strategies and how they affect individual's well-being. Also considered were the mechanisms to be used to explain these relationships. Several studies conducted with adults and youngsters linked the employment of adaptive responses to psychological well-being and less adaptive strategies to symptomatology (see meta-analysis by Compas et al., 2001, 2017; Penley et al., 2002). Regarding coping research with youth, most studies have focused on specific stages of development, such as adolescence, probably due to the higher amounts of stress that individual may experience during this crucial phase, which can bring negative consequences on adaptation. Such findings reveal that, among the strategies considered as less adaptive, avoidance coping was highly correlated to both externalizing and internalizing symptoms (Seiffge-Krenke, 2000), and to anxiety and eating disorders (Richardson et al., 2020),

whereas rumination, self-blame and catastrophizing were related to the presence of anxiety disorders (Legerstee et al., 2011). Among adaptive coping responses, problem-focused and active strategies were found as negatively correlated to depression (Cong et al., 2021) and positively associated with healthy functioning (Clarke, 2006). More specifically, problem orientation, positive attitude and social support showed positive associations with several indicators of well-being (Zammuner, 2019), whereas accommodation (i.e., cognitive re-appraisal of the situation) was found to predict well-being longitudinally (Thomsen et al., 2015). These findings highlighted that, when demanding events occur, the preference for adaptive coping strategies contrasts the effects of stress, serving as a protective factor against psychological maladjustment; conversely, the adoption of less adaptive strategies may exacerbate the effects of stress, representing potential risk factors for the development of psychological problems (Seiffge-Krenke, 2000).

In order to better understand how the coping process exerts its effect on youth adjustment, significant attention has been given to test more complex models in which coping interplays with other variables in determining psychological functioning. These models, indeed, have posited that coping could be a mechanism through which other protective factors proffer positive effects on adjustment (Zimmer-Gembeck & Skinner, 2016). Among these factors, EI has been considered as a variable of interest, given its positive relationship with both adaptive coping and psychological well-being, and its role in determining mental health through the effect of coping has been investigated. Some findings support the hypothesis of interactive effects of EI and coping in determining adolescent adjustment. For instance, Downey and colleagues (2010) demonstrated that the relationship between emotional management and internalizing and externalizing symptoms was mediated by non-productive coping strategies; Mikolajczak and colleagues (2009) found that the link between TEI and self-harm was partly mediated by the choice of emotional coping strategies. However, when the two EI theoretical approaches were distinguished, TEI and AEI were shown to exert divergent effects on coping-mental health relations, by impacting selectively on coping styles and disorder-types (Davis & Humphreys,

2012). In addition, by measuring TEI with various scales, the extent to which coping styles and emotion regulation strategies explain the TEI–psychological distress association was diversified (Beath et al., 2015). The peculiarity of these results suggests that the mechanism through which coping and EI interplay in determining youth adjustment should be further investigated, for example by using various methods of assessment and by examining specific factors that can influence this association (e.g., personality characteristics or environmental conditions), that may exacerbate or divert the effects of coping on functioning, and the broad variety of coping responses, that can have different impacts on outcomes.

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Chapter 2

Psychological Well-being in childhood: The role of Trait Emotional Intelligence, Regulatory Emotional Self-efficacy, Coping, and General Intelligence[1]

[1] This chapter corresponds to the following paper, published during the PhD research activity of the writer:
Pauletto, M., Grassi, M., Passolunghi, M. C., & Penolazzi, B. (2021). Psychological well-being in childhood: The role of trait emotional intelligence, regulatory emotional self-efficacy, coping and general intelligence. *Clinical Child Psychology and Psychiatry*, *26*(4), 1284–1297. https://doi.org/10.1177/13591045211040681

Abstract

Given the increase of mental health problems in youth, focusing on the promotion of psychological well-being is essential. Among the variables recognized as linked to children's psychological well-being, trait emotional intelligence, emotional self-efficacy and coping seem to be crucial, whereas the role played by intelligence is still controversial. In the present study, we explored the combined effects of these variables, aimed at disentangling their unique contribution to psychological well-being of 74 children (41 males, mean age: 9.03 years). We administered verbal and reasoning tests as intelligence measures, and self-report questionnaires to assess trait emotional intelligence, regulatory emotional self-efficacy, coping styles, psychological well-being. Correlations revealed two independent clusters of variables: a first cluster including intelligence indexes, and a second cluster including psychological well-being, trait emotional intelligence, regulatory emotional self-efficacy, adaptive coping styles. Hierarchical regression analyses showed that only trait emotional intelligence and positive restructuring coping style significantly contributed to psychological well-being. This study highlights that, unlike general intelligence, trait emotional intelligence was associated to psychological well-being, whereas coping styles play a negligible role in explaining this relationship. These findings are valuable in identifying the most relevant factors for childhood adjustment, and in enhancing emotion-related aspects in interventions for psychological well-being promotion.

Keywords: childhood; psychological well-being; emotional intelligence; coping; general intelligence; emotional self-efficacy

2.1. Introduction

Mental health problems in the developmental ages are quite common, affecting ~10–20% of children and adolescents worldwide (Collishaw, 2015). Early treatments for mental disorders are essential to decrease their ongoing effects and long-term consequences, but the prevention of psychological maladjustment and the promotion of psychological well-being (PWB) are equally fundamental health priorities. The research on the determinants of PWB in youth has identified the contribution of several psychological constructs in affecting well-being, like emotional intelligence, emotional self-efficacy, coping (e.g., Caprara et al., 2006; Davis & Humphrey, 2012a; Richardson et al., 2020), whereas the role played by general intelligence is still controversial (e.g., O'Connell & Marks, 2021; Wigtil & Henriques, 2015). Previous studies have explored the impact of these variables on PWB and cognate constructs (i.e., life satisfaction, happiness). Research has focused specifically on the relationship between emotional factors, self-efficacy, coping and well-being (e.g., Caprara et al., 2006; Mavroveli, et al., 2007; Richardson et al., 2020), as well as on the association between general intelligence and well-being (e.g., Richards et al., 2003; Wigtil & Henriques, 2015). In the second research line, emotional variables have been included only occasionally, as competitors (e.g., Businaro et al., 2015). Regarding the first branch of studies, various theoretical frameworks – recently unified in an integrated model of affect-related individual differences (Hughes & Evans, 2018) – have been developed on the construct of emotional intelligence, mainly conceptualized as a set of either emotion-related cognitive abilities (i.e., Ability Emotional Intelligence: AEI, Mayer & Salovey, 1997) or affect-related personality traits (i.e., Trait Emotional Intelligence: TEI, Petrides & Furnham, 2001). In this study, we focused on TEI, assessed by self-report measures, typically used in educational contexts as a good predictor of numerous outcomes (O'Connor et al., 2019). Previous research has already demonstrated that high levels of TEI correspond to high levels of well-being (e.g., Davis & Humphrey, 2012a; Di Fabio & Kenny, 2016).

Emotional self-efficacy is thought to capture the self-efficacy beliefs in one's own emotional functioning (Kirk et al., 2008). Although emotional self-efficacy and TEI have been frequently used as synonymous (see Petrides & Furnham, 2001), it has been proposed to consider the two constructs as distinct (see Kirk et al., 2008), because TEI may include self-perceptions and dispositions other than those embraced by emotional self-efficacy. Even more specific than emotional self-efficacy, is *regulatory* emotional self-efficacy, i.e., beliefs in one's emotion regulation skills (Caprara et al., 2008). These beliefs could be as relevant for PWB as the actual skills of emotion regulation, as reported by Caprara et al. (2006), who found regulatory emotional self-efficacy to concurrently and longitudinally predict well-being in adolescents.

Coping styles/strategies refer to the efforts to manage the demands that are appraised as taxing or exceeding the person's resources (Lazarus & Folkman, 1984). The link between adaptive/maladaptive coping strategies and psychological adjustment/maladjustment has been widely established (e.g., Ebata & Moos, 1991; Herman-Stahl et al., 1995). Recently, researchers have developed more complex models, in which coping mediates the relationship between emotional variables and mental health (e.g., Mikolajczak et al., 2009). However, research on the role of coping in mediating the association between emotional intelligence and PWB is still not conclusive, given that divergent results have emerged depending on whether emotional intelligence was considered as a set of traits or abilities (see Davis & Humphrey, 2012b).

Regarding the second branch of studies, previous data have already established the lack of association between general intelligence and TEI (e.g., Ferrando et al., 2010; Petrides & Furnham, 2001). On the other hand, the research on the relationship between general intelligence and well-being, conducted during the developmental ages especially in the context of gifted education, has still not yielded consistent results (e.g., Ash & Huebner, 1998; Richards et al., 2003).

As suggested by the above studies, to date, to the best of our knowledge, these variables have never been simultaneously investigated in the same study in order to estimate their contribution to childhood

PWB. The purpose of this work has been to fill this gap and examine the impact of self-report TEI, regulatory emotional self-efficacy and coping on PWB of an Italian sample of children, by concurrently examining the role played by intelligence, assessed by verbal and reasoning tests. We expected to confirm the crucial role of TEI in predicting childhood PWB and to either identify or replicate the positive associations between 1) TEI and coping styles typically evaluated as adaptive; 2) TEI and regulatory emotional self-efficacy; 3) adaptive coping styles and PWB; 4) regulatory emotional self-efficacy and PWB. We also hypothesized a mediation role of coping in the relationship between TEI and PWB, although we did not have hypotheses on which specific coping strategy could be involved. Moreover, specific assumptions on the link between general intelligence and PWB were avoided, given the incongruence of previous findings.

2.2. Method

2.2.1. Participants and Procedure

The participants were recruited from four classes of one primary school located in a small-size Italian city. The initial sample which entered the protocol comprised 82 children, ranging from 8 to 11 years, attending the 4th grade. However, in order to obtain more reliable questionnaire scores, non-native Italian speakers, participants having severe intellectual disabilities, specific learning disorders or special needs, and participants performing very low at the intelligence tests were excluded from the analysis (n=8). Thus, the final sample consisted of 74 children (41 males; mean age: 9.03 years ±.28). The questionnaires/tests were administered by trained research assistants, during normal class periods. Information was kept confidential and code numbers were used to ensure anonymity. Participants underwent four sessions (~45 minutes each): questionnaires were completed in three sessions (two orders of administration, randomly assigned to the four classes tested); intelligence tests were completed in the fourth session. The questionnaires and two intelligence tests were administered collectively, whereas the third intelligence test was administered in groups of four children. During

the sessions, researchers were available to provide further information when needed. The research, conducted according to the Declaration of Helsinki, was approved by the Ethical Committee of the University of Trieste, and children's parents gave their written informed consent to the study. Pupils were informed that their participation was voluntary, and that they could withdraw from the study at any time.

2.2.2. Measures

Primary Mental Abilities Battery (Thurstone & Thurstone, 1962; Rubini & Rossi, 1982). Only two subtests out of the seven primary mental abilities assessed by the battery were used in the present study: *Verbal Comprehension*, which evaluates verbal ability and consists of 60 stimuli, and *Inductive Reasoning*, which evaluates the ability to solve logical problems and consists of 50 stimuli. PMA subsets scores were transformed in an intelligence score for each subtest (PMA-v; PMA-r).

Raven's Coloured Progressive Matrices (Raven et al., 1998; Belacchi et al., 2008). The test is a measure of non-verbal reasoning ability, in which participants are asked to select the correct part to complete visual matrices by choosing among a certain number of options. The test comprises 36 items divided into three sets of 12. Raw scores were converted to percentiles based on normative data; finally, an intelligence score was obtained (CPM).

Trait Emotional Intelligence Questionnaire–Child Form (Mavroveli et al., 2008; Russo et al., 2012). The questionnaire detects personality facets related to emotion in children. It includes 75 short statements rated on a 5-point Likert scale. Items are allocated to 9 facets: Emotion Regulation, Emotion Expression, Emotion Perception, Self-Motivation, Self Esteem, Adaptability, Peer Relations, Affective Disposition, Low Impulsivity. Higher scores on the total factor, TEI, indicate higher levels of trait emotional intelligence. In the present sample TEI total score demonstrated satisfactory levels of internal consistency (Cronbach α=.90).

Regulatory Emotional Self-efficacy (Caprara et al., 2008). The questionnaire is a self-report measure of perceived self-efficacy in emotion regulation. It includes 8 items on the perceived capability to regulate negative emotions (RESE-n), and 7 items on the perceived capability to feel and express positive emotions (RESE-p). Items are rated on a 5-point Likert scale. Higher scores indicate higher levels of regulatory emotional self-efficacy. In the present sample moderate levels of internal consistency were found for both RESE-n and RESE-p (Cronbach α=.69, .76, respectively).

Emotion Regulation Checklist (Shields & Cicchetti, 1997; Molina et al., 2014). The questionnaire assesses children's emotion regulation from the perspective of parents/teachers. It comprises of 24 items rated on a 4-point Likert scale, estimating the frequency in the behaviour of the children. It captures two dimensions: Emotion Regulation (ERC-er) and Lability/Negativity (ERC-ln). Higher scores reflect higher observed emotion regulation. In the present study, only teachers were asked to complete the questionnaire. Internal consistency was moderate for ERC-er (Cronbach α=.65) and good for ERC-ln (Cronbach α=.88).

Children's Coping Strategies Checklist-Revision 1 (Ayers & Sandler, 1999; Camisasca et al., 2012). The questionnaire evaluates how children typically cope with hypothetical stressors, by asking them to indicate how frequently they adopt a given coping strategy on a 4-point Likert scale. It involves five dimensions of coping: Problem-focused (CCSC-pf), Positive cognitive restructuring (CCSC-pr), Distraction (CCSC-dis), Avoidance (CCSC-av), Support-seeking (CCSC-sup). Higher scores in a coping dimension indicate a more frequent use of that specific coping strategy. In this study an Italian short version of 28 items was used (Fiorilli et al., 2015). The levels of internal consistency were acceptable (Cronbach α ranging from .68 to .81).

Comprehensive Inventory of Thriving-Child (Su et al., 2014; Andolfi et al., 2017). The questionnaire measures PWB in children and consists of 36 items, rated on a 5-point Likert scale. Five dimensions of positive functioning are represented (Relationship, Engagement, Mastery, Optimism, Life

Satisfaction), loading 12 facets. Higher scores indicate higher levels of well-being. In the present sample, the total score (CIT) showed high levels of internal consistency (Cronbach α=.90).

2.3. Data Analyses and Results

After descriptive statistics (see Table 1), a robust correlation analysis was carried out in order to detect the relationships between PWB, TEI, regulatory emotional self-efficacy, coping strategies and intelligence measures. A confirmatory factor analysis was also conducted to test the discriminant validity between TEI and PWB, given their high correlation. Lastly, a four-step hierarchical regression and stepwise regression analyses were performed to detect possible predictors of PWB. Given the results of the regression analysis, the hypothesized mediation role of coping strategies in the relationship between TEI and PWB was not tested further. All the analyses were carried out in R (R Core Team, 2019).

Table 1. Descriptive statistics of the measured variables

	Mean	SD	Min	Max	Skew	Kurtosis
PMA-v	123.45	3.56	114.00	128.00	-.75	.23
PMA-r	125.72	10.28	85.00	141.00	-1.15	1.99
CPM	107.30	14.46	80.00	130.00	-.07	-.99
TEI	3.52	.41	2.67	4.48	-.05	-.65
RESE-n	24.50	5.61	13.00	40.00	.21	.17
RESE-p	30.36	3.92	20.00	35.00	-.62	-.59
ERC-ln	1.47	.47	1.00	3.53	1.82	4.19
ERC-er	3.46	.36	2.50	4.00	-.31	-.63
CCSC-pf	13.54	3.20	7.00	20.00	.01	-.88
CCSC-pr	12.81	3.35	5.00	20.00	-.06	-.38

CCSC-dis	15.49	4.58	6.00	24.00	-.06	-.83
CCSC-av	15.11	3.79	7.00	23.00	-.24	-.84
CCSC-sup	14.31	4.56	6.00	23.00	-.25	-.91
CIT	45.89	6.40	30.67	58.00	-.51	-.33

Note: N=74. PMA-v: Primary Mental Abilities, verbal comprehension; PMA-r: inductive reasoning; CPM: Coloured Progressive Matrices; TEI: Trait Emotional Intelligence; RESE-n: Regulatory Emotional Self-efficacy, regulating negative emotions; RESE-p: expressing positive emotions; ERC-ln: Emotion Regulation Checklist, lability/negativity; ERC-er: emotion regulation; CCSC-pf: Children's Coping Strategies Checklist, problem-focused strategies; CCSC-pr: positive cognitive restructuring; CCSC-dis: distraction; CCSC-av: avoidance; CCSC-sup: support-seeking strategies; CIT: Comprehensive Inventory of Thriving (PWB).

2.3.1. Correlation Analyses

Figure 1 displays the pattern of Pearson's correlations, in terms of their magnitudes, using intensity of shading and correlation-based variable ordering (Friendly, 2002; Patil & Powell, 2018). Specifically, robust correlation coefficients were used to control for univariate skewness and bivariate outliers. The location of variables along axes was determined by multivariate clustering algorithms searching for similarities in magnitude and sign of correlation coefficients. As shown in Figure 1, two separate clusters of variables clearly emerged: the first cluster of variables, all positively related, included the intelligence measures; the second cluster of variables, all positively related, included TEI, regulatory emotional self-efficacy in managing negative emotions, coping styles generally evaluated as adaptive (i.e., problem-focused, support-seeking, positive cognitive restructuring), and, remarkably, PWB. Importantly, the two clusters of variables were not related to each other, except for a moderate negative association between distraction coping and reasoning ability. Within the last cluster, TEI and PWB were the most strongly correlated variables, and were both highly correlated with adaptive coping styles. Among coping styles, distraction and avoidance were positively associated to each other, but not related to either of the other coping strategies (except for a positive correlation between avoidance and positive cognitive restructuring), nor to the variables of the second cluster. Regulatory emotional

self-efficacy in expressing positive emotions was positively correlated only with support-seeking coping. Moreover, the TEI in children was not correlated with the emotion regulation rated by the teachers in the self-report scores.

Given the very high correlation between TEI and PWB (r=.71), discriminant validity was preliminarily explored with two rigorous strategies based on confirmatory factor analysis (e.g., Torkzadeh, et al., 2003). First, a multiple indicator two-factor model with a correlation between factors set as free parameter was compared with a constrained model with correlation between factors set to 1.0. A statistically significant Chi square difference test between these models (Chi-square difference test=8.541, df=1, p=.003) provided evidence of discriminant validity between TEI and PWB (e.g., Torkzadeh et al., 2003). Second, since the bootstrapped 95% confidence interval of the correlation between the two factors [.72 -.99] did not include the value 1, this was interpreted as further evidence that TEI and PWB were distinct constructs (Torkzadeh et al., 2003).

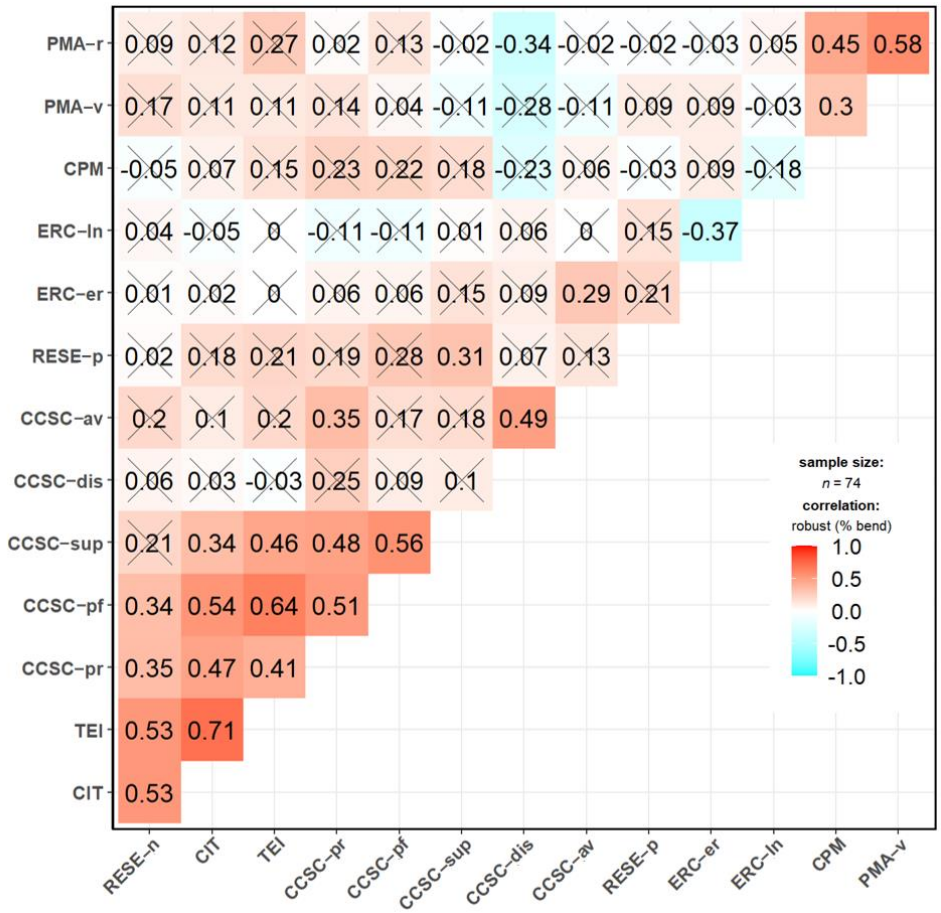

Figure 1. Robust correlations among variables represented by intensity of shading. Variables ordered according to a hierarchical clustering algorithm. Note: X=correlation not significant at $p < 0.05$, controlling for false discovery rate (Benjamini & Hochberg, 1995). RESE-n: Regulatory Emotional Self-efficacy, regulating negative emotions; RESE-p: expressing positive emotions; CIT: Comprehensive Inventory of Thriving (PWB); TEI: Trait Emotional Intelligence; CCSC-pf: Children's Coping Strategies Checklist, problem-focused strategies; CCSC-pr: positive cognitive restructuring; CCSC-dis: distraction; CCSC-av: avoidance; CCSC-sup: support-seeking strategies; ERC-er: Emotion Regulation Checklist, emotion regulation; ERC-ln: lability/negativity; CPM: Coloured Progressive Matrices; PMA-v: Primary Mental Abilities, verbal comprehension; PMA-r: inductive reasoning.

2.3.2. Hierarchical Regression

To examine the proportions of variance of the PWB explained by TEI, regulatory emotional self-efficacy in managing negative emotions and the coping styles correlated with the dependant variable, a four-step hierarchical regression was performed. Age and verbal intelligence (which was most likely to affect self-report completion among the intelligence measures) were entered into the model as control variables in the first step; the adaptive coping styles significantly related to PWB (i.e., problem-focused strategies, support-seeking, positive cognitive restructuring) were entered in the second step; regulatory self-efficacy in managing negative emotions (i.e., the only scale of the regulatory emotional self-efficacy questionnaire correlated to PWB) was entered in the third step; finally, TEI was entered in the last step. The results of the regression model are shown in Table 2. Control variables were not significant determinants of PWB (R^2=.02, p=n.s.). Among the coping styles only problem-focus significantly predicted higher PWB levels. Regulatory emotional self-efficacy in managing negative emotions, added to the model in the third step, proved to be a significant determinant of PWB, whereas problem-focused coping became only marginally significant. The fourth step including TEI significantly increased the amount of variance explained by previous steps: only TEI was statistically significant, with higher scores of TEI predicting higher scores of PWB. By including TEI in the model, regulatory emotional self-efficacy in managing negative emotions ceased to be significant, whereas the opposite pattern was shown for positive restructuring coping. Bayes Factors (BF_{01}) analyses (see Table 2) showed that the model without TEI was less likely than the model including this variable

(BF_{01}<1), whereas the exclusion of other variables determined an improvement of model likelihood (BFs_{01}>1). Bayesian analyses also confirmed that positive restructuring coping did not significantly predict PWB when considering the other variables of the fourth model (i.e., BF01>1, indicating more evidence for the null-hypothesis). In the stepwise regression, Akaike criterion (AIC) supported a final model with TEI and positive restructuring coping as significant determinants of PWB, both with forward and backward selection methods (see the last part of Table 2 and Figure 2). However, given the scarce reliability of positive restructuring coping in significantly predicting PWB, its role as a mediator of the relationship between TEI and PWB was not further tested.

Table 2. Analyses of hierarchical regression on CIT

							R^2	Chi-square		
	Beta	**SE**	***t***	***df***	***p***	R^2	**Change**	**(df)**	***p***	**BF01**
BLOCK 1						.02	.02	1.05 (2)	-	
PMA-v	.09	.110	.830	71	-					2.14
age	.23	.110	2.110	71	*.038*					1.75
BLOCK 2					-	.34	.31	29.33 (3)	<.001	
PMA-v	.06	.104	.602	68	-					2.68
age	.16	.102	1.555	68	-					1.94
CCSC-pf	.37	.133	2.746	68	*.008*					.07
CCSC-pr	.22	.125	1.775	68	.080					.67
CCSC-sup	.01	.130	.039	68	-					3.10
BLOCK 3					-	.43	.09	10.59 (1)	.001	
PMA-v	-.03	.104	-.274	67	-					3.27
age	.08	.102	.754	67	-					2.50
CCSC-pf	.26	.134	1.902	67	.062					.20

CCSC-pr	.23	.125	1.817	67	.074					1.24
CCSC-sup	-.03	.129	-.221	67	-					3.27
RESE-n	.33	.109	2.999	67	*.004*					.03
BLOCK 4					-	.54	.11	17.01 (1)	<.001	
PMA-v	-.04	.085	-.488	66	-					3.54
age	-.04	.083	-.538	66	-					3.12
CCSC-pf	.04	.120	.324	66	-					2.72
CCSC-pr	.21	.101	2.049	66	*.044*					1.13
CCSC-sup	-.10	.106	-.927	66	-					3.36
RESE-n	.13	.100	1.281	66	-					1.57
TEI	.55	.120	4.560	66	*.000*					.00
Stepwise model selection by AIC						.55	.55	58.75(3)	<.001	
TEI	.56	.103	5.411	70	*.000*					.00
CCSC-pr	.18	.089	1.998	70	*.050*					.91
RESE-n	.14	.098	1.417	70	-					2.28

Note: BF01=Bayes Factor; values greater than 1 indicate more evidence for the null-hypothesis. *p*-values > .10 were not reported. CIT: Comprehensive Inventory of Thriving (PWB); PMA-v: Primary Mental Abilities, verbal comprehension; CCSC-pf: Children's Coping Strategies Checklist, problem-focused strategies; CCSC-pr: positive cognitive restructuring; CCSC-sup: support-seeking strategies; RESE-n: Regulatory Emotional Self-efficacy, regulating negative emotions; TEI: Trait Emotional Intelligence.

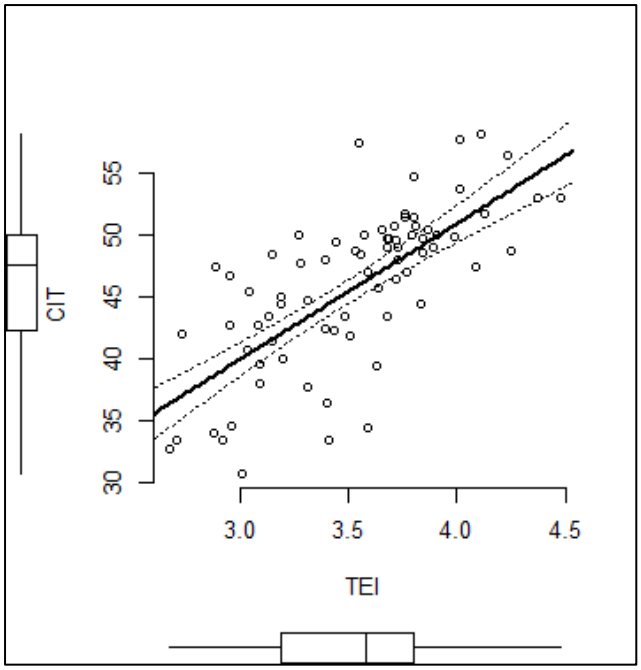

Figure 2. Scatter plot analysis of the relationship between TEI and PWB (CIT scores). Note: The plot contains data points, robust linear regression prediction (solid line), 95% confidence intervals bands (dotted lines), and box plots for the univariate distribution of CIT (=Psychological Well-Being) and TEI (=Trait Emotional Intelligence).

2.4. Discussion

The main purpose of the present study was to clarify the role of some individual variables in determining well-being in childhood. Specifically, we considered TEI, regulatory emotional self-efficacy, coping styles and, concurrently, some measures of verbal and non-verbal intelligence. Although previous studies have already investigated how these constructs can affect PWB in children, to the best of our knowledge, these variables have never been considered all together to estimate their respective contribution.

First, a robust correlation analysis revealed that measures of intelligence were not related to other psychological constructs. The absence of association between general intelligence and TEI confirmed that the latter is more related to the personality than to the cognitive domain (Petrides & Furnham, 2001). Importantly, general intelligence was not associated with PWB in children. In this regard, previous studies have exhibited discordant results (e.g., Richards et al., 2003; Wigtil & Henriques,

2015), possibly as a consequence of the diverse and specific tests employed for the assessment of intelligence (e.g., analytic reasoning, verbal abilities, or proxy measures, like grade point average in scholastic performance). In the current study, we included various measures of intelligence: because none of them were associated with PWB, we inferred that variables like TEI, self-efficacy or coping are more salient than intelligence for optimal adjustment in children.

Crucially, TEI, regulatory emotional self-efficacy in managing negative emotions and coping styles generally considered as adaptive (i.e., problem-focused, support-seeking, positive cognitive restructuring) emerged as related to PWB. In particular, TEI was positively and highly correlated to PWB, in line with our hypothesis and previous evidence (e.g., Davis & Humphrey, 2012a; Mavroveli et al., 2007). Also, regulatory emotional self-efficacy in negative emotions was associated to PWB, partially in line with the findings of Caprara et al. (2006), who observed an association between adolescent well-being and both measures of regulatory emotional self-efficacy. Presumably, for PWB of children, the perceived capability to handle negative emotions is more valuable than the perceived capability to express positive emotions, because of the beneficial effect that the self-efficacy in regulating perturbing emotions may have on self-confidence and therefore on PWB. Adaptive coping styles were also related to PWB, in line with both our hypothesis and the existing literature (e.g., Frydenberg & Lewis, 2009; Zammuner, 2019). As also shown in the regression analysis, among the coping styles, problem-focused and positive reframing strategies were the most determinant for PWB of children, although higher level emotional variables showed better predictive properties.

As expected, TEI, regulatory self-efficacy in managing negative emotions and adaptive coping styles were all positively associated. Whereas previous evidence has already highlighted a positive relationship between TEI and adaptive coping (e.g., Mavroveli et al., 2007; Mikolajczak et al., 2009), to date, this is the first study to investigate and establish a relationship between regulatory emotional self-efficacy and both TEI and coping styles.

No associations were detected between the questionnaire completed by the teachers and the questionnaires completed by children themselves, in line with some previous studies reporting a discrepancy between perspectives in children and adults (e.g., Hourigan et al., 2011; Kerr, Lunkenheimer, & Olson, 2007). This is possibly due to the fact that, in evaluating themselves, children have a direct access to their own thoughts and feelings, whereas, in evaluating children, teachers can rate only an external behaviour, mostly related to the school context.

Regression analysis, performed in order to detect the unique contribution of the investigated variables in determining PWB in children, confirmed the relevance of TEI as a major personal resource for an optimal psychological functioning, and highlighted a negligible contribution of the other variables when TEI is taken into account. The predictive role of TEI in determining PWB was in line with our hypothesis and with previous studies (e.g., Di Fabio & Kenny, 2016; Martins et al., 2010). Instead, our results did not confirm the role played by coping in influencing PWB when TEI is involved, except for a minor contribution of positive cognitive restructuring, which however is in need of further support by future studies. This finding precluded a further investigation of the role of coping as mediator in the association between TEI and PWB. The inconsistence between our results and those reporting a mediation/moderation effect of specific coping strategies in the relationship between TEI and PWB might be due to the moderate reliability of some subscales of the coping questionnaire we employed, rather than to theoretical reasons. Future studies should further explore these relationships using multiple tools to assess the constructs of interest. Notably, regulatory emotional self-efficacy in negative emotions ceased to exert an effect on PWB when TEI was added to the model. It is arguable that the two emotional variables partially overlap. However, given that TEI showed a higher predictive value of PWB than emotional self-efficacy, it is possible to state that the two constructs are distinct, rather than interchangeable as previously hypothesized (see Petrides & Furnham, 2001).

The current study presents some limitations that should be acknowledged. First, many variables were assessed by using self-report questionnaires, which present several benefits (e.g., they are quick to

answer, easy to administer, motivating), but even some disadvantages (e.g., they can be biased by social desirability, and they may be either difficult to understand or to rate, especially for children). However, in order to minimize at least the impact of verbal abilities on these measures, we controlled for verbal intelligence. Second, the data were cross-sectional: although we hypothesized that the variables taken into account could predict PWB, the experimental design precluded any inferences regarding causation. Future studies on the link between these variables and PWB should be developed in a longitudinal perspective, which is fundamental for obtaining a systematic picture of the nature and sources of developmental change (Grammer et al., 2013). Third, because some scales yielded only a moderate internal consistency (i.e., self-ratings of children concerning regulatory emotional self-efficacy in negative emotions and avoidance coping, and ratings of teachers regarding emotion regulation), related results should be interpreted with caution.

Nevertheless, our findings suggest various and new perspectives for research and practice in both health and clinical psychology. As regards research, it may be worthwhile investigating whether the major impact of emotional intelligence on childhood PWB persists using emotional ability rather than emotional trait measures: indeed, the two models of emotional intelligence (Ability vs Trait), although not mutually exclusive, are considered as distinct constructs (Petrides & Furnham, 2001). In addition, since we employed a dispositional measure of coping, future research should contemplate the possibility of assessing coping responses at a situational level, which might be a more suitable way to explore coping in childhood, although such types of investigation tools are scarce, at least in the Italian scenario. Regarding psychological practice, a significant implication of the present research is the need to prioritize emotional variables, in both educational and clinical settings, to promote PWB. Indeed, interventions programmes focused on EI promotion in the developmental ages may have considerable benefits both at an intrapersonal level, by facilitating the regulation of unpleasant emotions, and at an interpersonal level, by fostering positive relationships with peers and adults. This, in turn, may contribute to protect children from the effects of distress and to prevent the occurrence of psychological

symptoms. Some studies have already documented the beneficial effects of EI trainings on youngsters' EI and PWB (e.g., Ruiz-Aranda et al., 2012; Ulutas & Omeroglu, 2007). However, although a recent meta-analysis confirmed the effectiveness of rigorous EI intervention programmes in adulthood (see Hodzic et al., 2018), additional data need to be collected in the developmental ages.

To conclude, although the relationship between general intelligence, TEI, emotional self-efficacy, coping and mental health has already been investigated, to the best of our knowledge this is the first study exploring the simultaneous contribution of all these variables to children's PWB. We provided evidence for the lack of associations between intelligence and PWB, TEI, regulatory emotional self-efficacy and coping styles. Unlike general intelligence, problem-focused coping and regulatory emotional self-efficacy were strongly associated to PWB. However, when these variables were considered simultaneously to TEI, the last construct resulted the unique significant predictor of PWB. Overall, the present findings may be extremely valuable in detecting the most relevant psychological variables for PWB in childhood, to both enrich the theoretical models of the field and orient interventions programmes to promote well-being in the developmental ages.

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Chapter 3

Fostering Emotional Intelligence in preadolescence: Effects of a pilot training on Emotions, Coping and Psychological well-being[2]

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Abstract

The purpose of the present study was to examine the efficacy of a short training programme (eight 1 hour-sessions) aimed to promote Emotional Intelligence (EI) abilities in primary school on a set of outcomes related to affect, coping and psychological well-being. Sixty-eight preadolescents (10.68±.58 years) were randomly assigned to either the experimental condition (EI training) or the active control condition (pro-environmental training). ANOVAs, Bayesian and cross-lagged analyses were performed on pre/post-training measures of trait and ability EI, positive/negative affect, regulatory emotional self-efficacy, coping styles, and psychological well-being. Results showed that only in the EI training condition emotional abilities significantly improved, negative affect and the preference for distraction coping significantly diminished, whereas trait EI, emotional self-efficacy, adaptive coping strategies, and psychological well-being did not show any change. Although the effects of the present EI training did not extend to relevant variables of functioning, these findings suggest its effectiveness in enhancing EI basic skills in preadolescents. This study confirms the efficacy of short school-based programs in enhancing EI abilities, and highlights the importance of further investigating the training features required to extend its benefits also to psychological well-being. Implications for research and educational practices are discussed.

Keywords: Emotional Intelligence; school-based interventions; preadolescence; psychological well-being; coping

3.1. Introduction

The present study was aimed to examine the efficacy of a brief training programme to promote Emotional Intelligence (EI) skills in the primary school on a set of outcomes related to psychological adjustment. The crucial role of EI in youth adjustment has been largely demonstrated by previous research (e.g., Di Fabio & Kenny, 2016; Pauletto et al., 2021). Two main theoretical frameworks have been developed around the construct of EI: according to the ability-based model (AEI; Mayer & Salovey, 1997), EI is a set of cognitive abilities referred to the perception, understanding, usage and management of emotions; according to the trait-based model (TEI; Petrides et al., 2007), it is a constellation of self-perceptions and dispositions related to the personality domain. Recently, these two models and the Emotion Regulation model (Gross, 2015) have been combined in an Integrated Model of Affect-related Individual Differences, that suggests how the different EI-related constructs may interplay with each other (Hughes & Evans, 2018).

In order to promote an optimal adjustment and to prevent the onset of possible mental disorders, the fostering of EI skills should be encouraged from the earlier stages of development, with particular attention given to peculiar phases, like preadolescence, in which an increased emotional vulnerability enhances the risk of developing emotional problems (Bacter et al., 2021).

Schools can be considered ideal settings for the promotion of EI, because equal opportunities to acquire and practice skills in realistic inter-individual situations are given to numerous pupils (Masia-Warner et al., 2006). In recent years, school-based EI intervention programs have shown promising results in promoting adolescents' adjustment (e.g., Ruiz-Aranda et al., 2012) and preschoolers' emotional skills (e.g., Ulutas & Ömeroğlu, 2007). Among the few studies conducted with preadolescents, it was found that one-year EI intervention was effective in improving emotional competence, and a further year of intervention was also able to affect EI traits (Viguer et al., 2017). This finding suggests that emotional skills related to the explicit knowledge about emotions are easier to modify than emotional traits, as the latter are more relevant to the personality domain and therefore comparatively more stable (Hodzic

et al., 2017). The few studies conducted in the Italian context have shown their effectiveness in enhancing the emotional skills of preschoolers and high-school students (Di Fabio & Kenny, 2011; Di Maggio et al., 2017; Grazzani & Ornaghi, 2011) and in decreasing the emotional problems in primary-school children (Crescentini et al., 2016). However, to the best of our knowledge, none of the existing Italian studies in the field have tested the effects of an EI training concurrently taking into account the following aspects: (1) strictly controlled design (i.e., with an active control condition, structurally equivalent to the experimental one, and randomization at the individual, rather than at the classroom, level); (2) training built on a solid conceptual framework (i.e., AEI models); (3) full set of measures to assess both emotional dimensions (i.e., trait and ability EI, positive/negative affect, regulatory emotional self-efficacy) and other aspects of psychological functioning (i.e., coping styles and psychological well-being); (4) ease of implementation (i.e., short and non-intensive training in terms of frequency of the sessions); (5) target on preadolescence. By applying an AEI training with the aforementioned features, we expected an enhancement in all the emotional measures, except TEI (likely more challenging to improve with short trainings), and also in the usage of adaptive coping strategies and in psychological well-being.

3.2. Method

3.2.1. Participants and Procedure

A total of 68 preadolescents (38 males; 10.68±.58 years) were involved. Students were recruited from three classes of one primary school located in northern Italy. Half of the participants in each class were randomly assigned to the EI training (EI-t, n=34), the other half to a control training aimed to promote pro-environmental attitudes and behaviours (C-t, n=34). The two groups were previously matched 1:1 for variables that could affect the results (age, gender, nationality, presence of learning disability/special needs, IQ and TEI). Success of the matching procedure was verified through t-test comparisons. The research was approved by the Ethical Committee of the University of Trieste.

Parents gave a written consent for their children to participate in the study. Pupils were informed that their participation was voluntary, and that they could withdraw from the study at any time.

3.2.2. Measures

Verbal Comprehension test of Primary Mental Abilities Battery (*PMA*, Thurstone & Thurstone, 1962; Rubini & Rossi, 1982). The measure estimates the ability to deal with verbal concepts. Participants are requested to select from a set of words/pictures the one with the same meaning as the target. Raw scores were transformed in intelligence scores (IQ-PMA-vc) and were employed to match the EI-t and C-t groups (means and SD were, respectively, 120.82±5.74 and 118.18±14.5).

Raven's Coloured Progressive Matrices (*CPM,* Raven et al., 1998; Belacchi et al., 2008). The measure evaluates non-verbal reasoning ability: participants are asked to select the correct missing part to complete visual matrices by choosing from among six options. Raw scores were converted to percentiles based on normative data; a total score was obtained, representing a fluid intelligence measure (IQ-RAV). Scores were employed to match the EI-t and C-t groups (means and SD were, respectively, 108.48±13.95 and 107±15.35).

Ability Emotional Intelligence Test (*AEIT*). This performance test, developed by our team to evaluate some EI abilities, involves 16 items requiring participants to respond with open answers. In the first section (AEIT-lex), which includes 11 items assessing lexical knowledge about emotions, preadolescents are asked to define (i) the term "emotion" and (ii) ten selected emotions. In the second section (AEIT-und), which includes 6 items evaluating the ability to understand the complexity of the emotional experience, preadolescents are asked to report which emotions they think they would feel in critical scenarios, created to simultaneously elicit different emotions. For AEIT-lex, the congruity of participant descriptions with the commonly shared definitions of emotions is evaluated. For AEIT-und, the capability to identify the complexity of emotional experiences, elicited by each scenario, is considered. Item scores, assigned by two independent judges, range from 0 to 1, with higher total

scores (item average) corresponding to higher emotional abilities. Reliability was moderate for AEIT (α=.64) and AEIT-und (α=.69), whereas it was lower, but still acceptable, for AEIT-lex, (α=.56), being that AEIT is a performance test. The AEIT is shown in the Supplementary materials (see Appendix IV).

Trait Emotional Intelligence Questionnaire–Child Form (*TEIQue-CF*, Mavroveli et al., 2008; Russo et al., 2012). Designed to assess trait emotional intelligence in children, the questionnaire comprises 75 brief statements, rated on a 5-point Likert scale, allocated to 9 facets (Emotion Regulation, Emotion Expression, Emotion Perception, Self-Motivation, Self-Esteem, Adaptability, Peer Relations, Affective Disposition, Low Impulsivity). Higher scores on the global scale, TEI, highlight higher levels of trait emotional intelligence. Reliability of total TEI was high (Cronbach α=.87).

Positive and Negative Affect Scale–Children (*PANAS-C*, Laurent et al., 1999; Ciucci et al., 2017). The questionnaire includes 15 items measuring positive affect (PANAS-p) and 15 items measuring negative affect (PANAS-n). Children rate the degree to which they have recently experienced specific moods/feelings on a 5-point Likert scale. Higher scores represent higher levels of positive or negative affect. Reliability was high for both PANAS-p (α=.82) and PANAS-n (α=.79).

Regulatory Emotional Self-efficacy (*RESE,* Caprara et al., 2008). The questionnaire includes 8 items on the perceived capability to regulate negative emotions (RESE-n), and 7 items on the perceived capability to feel and express positive emotions (RESE-p). Items are rated on a 5-point Likert scale. Higher scores indicate higher levels of negative or positive emotional self-efficacy. Reliability was overall acceptable (α=.75 and α=.69, respectively).

Children's Coping Strategies Checklist-Revision 1 (*CCSC-R1,* Ayers & Sandler, 1999; Camisasca et al., 2012). The questionnaire, here used in a 28-item short version (Fiorilli et al., 2015), evaluates how children typically cope with hypothetical stressors, by asking them to report, on a 4-point Likert scale, the frequency with which five coping styles are used: Problem-focus (CCSC-pf), Positive cognitive

restructuring (CCSC-pr), Support-seeking (CCSC-sup) - usually considered adaptive strategies, Distraction (CCSC-dis), and Avoidance (CCSC-av) - usually considered dysfunctional strategies. Higher scores in a coping dimension indicate a more frequent use of that coping strategy. Low to moderate levels of internal consistency were found (from α=.55 for CCSC-pf to α=.75 for CCSC-sup).

Comprehensive Inventory of Thriving-Child (*CIT-Child,* Su et al., 2014; Andolfi et al., 2017). The questionnaire measures children's psychological well-being through 36 items, rated on a 5-point Likert scale, pertaining to five principal dimensions of positive functioning: Relationship, Engagement, Mastery, Optimism, Life Satisfaction. Higher scores indicate higher levels of well-being. Total CIT α was .89.

3.2.3. Training Design

Assessments were conducted before and after the training. Each training consisted of 1-hour weekly sessions for a total of eight weeks, delivered during school-time by the same instructors (three trainee psychologists supervised by two trained board-certified psychologists). The activities in the two trainings were structurally equivalent (i.e., same proportions of role playing, storytelling, watching video, group discussion, creative works, games) and differed only in their content (EI vs environmental topics, see Appendix III).

Given the estimated higher efficacy of trainings grounded on AEI models (see Hodzic et al., 2017), to increase preadolescents' emotion knowledge and awareness, and encourage the application of emotional skills in their everyday life, we relied on the most recent hierarchical three-factor models of AEI (Hughes & Evans, 2018; MacCann et al., 2014). Specifically, training activities were directed to promote emotion perception, understanding, and management, namely the three branches of emotional abilities (highly correlated to each other and loading onto a single higher-order ability EI factor) assumed by these models.

The first sessions focused on prompting the ability to perceive emotions and to augment emotional awareness. The participants were introduced to the topic, and were motivated to think about/discuss the meaning of emotions (e.g., different primary and secondary emotions), and about the ways such emotions are expressed (e.g., facial expressions, gestures), with the scope of learning more deeply how emotional experiences can be characterized through feelings, thoughts, bodily changes and behaviours. The following sessions were dedicated to the understanding of the complexity of emotional experiences, often characterized by co-occurrence of ambivalent emotions having different levels of intensity. Activities included reading, storytelling and watching videos, in which children were asked to recognize emotional states in the characters, to observe the connotation, magnitude, evolvement of emotions as events occurred, and to identify the possible presence of ambivalent emotions (e.g., happiness, but also enviousness, for a friend who won a game). Participants were also stimulated to report what they would have felt in similar contexts, given that stories represented events commonly experienced by children (e.g., conflicts with siblings/friends, loss or breakage of a game). Group discussions were encouraged to share experiences and thoughts, and to facilitate processes of awareness and understanding. The last sessions were aimed at enhancing emotion regulation skills, which are the most complex to develop, given that they require the implementation of time and effort. With trainers' guidance, preadolescents were asked to identify their own emotion regulation strategies and to outline potential new approaches to cope with their disturbing affects. Exercises of role playing in emotional artificial scenarios, writing thoughts, and creative works were proposed. For instance, the "jar of emotions" was created with the purpose of collecting written examples of the most used emotion regulation strategies employed and shared by children, whereas the "emotion regulation kit" portrayed every participant's repertoire of resources potentially helpful in dealing with stressors.

Each training session followed a similar format to guarantee procedure consistency. Initially, children were grouped, led to the classroom selected for the training, and welcomed; then, topics debated in the previous session were briefly reviewed, and plans for the current session were presented; subsequently,

core activities were proposed (usually 2 for each session); lastly, children were invited to reflect on what they had done and learned by writing feedback. At the end of the whole training, participants were provided with a booklet of the collected materials.

The Table of the Activities is shown in the Supplementary materials (see Appendix III).

3.3. Data Analyses and Results

3.3.1. Statistical Approach

We analysed data separately for each measure with a mixed model ANOVA including two factors: Training (EI-t vs C-t; between) and Time (T0 vs T1; within). To assess the effectiveness of the AEI training over the control training, we critically focused on the Time x Training interaction. In particular, we performed three planned comparisons: T0 vs T1 within each group to confirm a significant effect exclusively in the EI-t group; T1 between-group difference to confirm a significant enhancement in EI-t over C-t measures. Effect size measures were reported as η^2_p (small=.01, medium=.06, and large effect >.16) and Cohen's d (small=.20, medium=.50, and large effect >.80). Missing data regarding single items in the various questionnaires were replaced by either the middle point of the relative Likert scale (when this was indicated by the questionnaire manuals), or by the sample average for that item. Six children did not complete the AEIT task in T0 and were discarded from the analyses involving this measure. To overcome possible issues related to sample size, we also used a Bayesian approach by computing the alternative/null Bayes Factor (BF10; Jarosz & Wiley, 2014). BF10 was reported to indicate the strength of the evidence for each analysis. Evidence for the alternative hypothesis was set as BF10>3 and evidence for null hypothesis was set as BF10<.33, with .33≤BF10≤3 considered as inconclusive for any hypothesis. In this regard, we proceeded to analyze the aforementioned planned comparisons in presence of a significant Time x Training interaction or inconclusive support for the null hypothesis (.33≤BF10≤3). At an exploratory level, several Cross-lagged Panel Models (CLPM) were undertaken with path analysis, to determine the extent to which

changes in one measure from T0 to T1 could lead to changes in the other measure or vice versa. Figure 1 (panel A) shows the path diagram for a two-wave, two-variable panel model. The regression coefficients A and B represent autoregressive paths, describing the variable temporal stability, whereas C and D are the cross-lagged paths, describing reciprocal influence between variables across two time points, while statistically controlling for the prior level of the construct. Asymmetrical cross-lagged paths, such as D>C, indicate that Y0 plays a role in predicting X1 and acts as a temporal antecedent, implying that Y is a possible cause of change in X rather than vice versa. All analyses were performed using R Statistical Software (v4.1.2; R Core Team 2021). CLPM results relied on R package lavaan (v0.6-9; Rosseel, 2012) with maximum likelihood (ML) estimator and bootstrap standard error (1,000 replications). All p-values reported were based on a two-tailed alternative hypothesis.

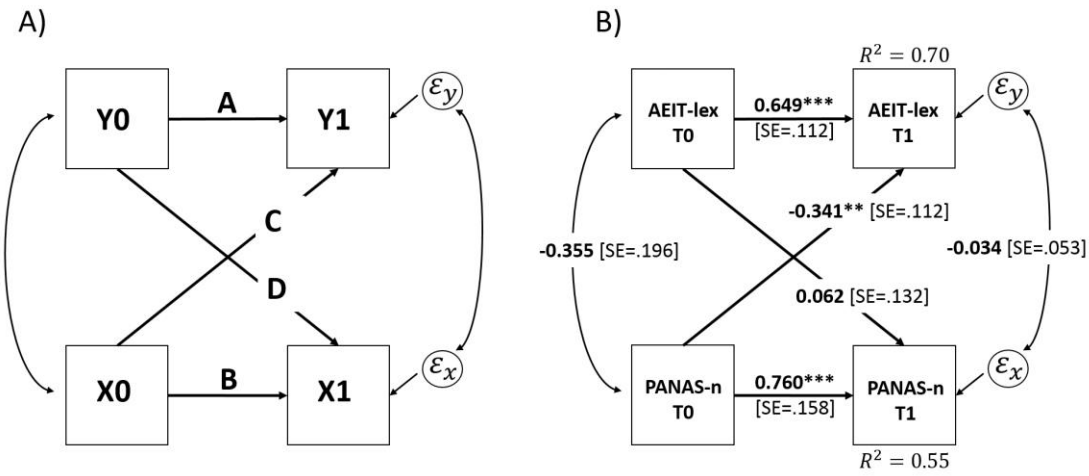

Figure 1. Panel A: Cross-lagged Panel Models (CLPM) with two-wave and two observed variables. Panel B: CLPM between negative affect and emotional lexicon before and after the EI training (N=31).
Note: Beta coefficients are shown, as well as bootstrap standard error (SE). **p < 0.01, ***p < 0.001.

3.3.2. Results

Table 1 summarizes groups' mean and standard deviation values for the employed measures, both in normative and present sample (at T0 and T1): importantly, no t-test at T0 was statistically significant. Training-induced significant results, presented in Table 2, will be discussed separately in the next

paragraphs, whereas the other measures displaying no statistically significant between-group differences will be reported in the Supplementary materials (see Appendix I).

Table 1. Groups' means and standard deviation (SD) for each measure at T0 and T1

		T0		T1	
	Italian validation sample	**EI-t**	**C-t**	**EI-t**	**C-t**
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
TEI	3.61 (.39)	3.60 (.32)	3.59 (.36)	3.62 (.37)	3.61 (.46)
CIT	48.43[a] (6.24[b])	45.87 (5.30)	47.88 (6.34)	46.56 (6.15)	48.36 (6.20)
CCSC-pf	10.81 (2.69)	13.97 (2.24)	14.32 (2.59)	13.59 (2.75)	13.18 (2.69)
CCSC-pr	11.69 (3.22)	12.24 (3.39)	13.47 (3.30)	12.35 (2.67)	13.15 (3.26)
CCSC-dis	13.47 (4.13)	14.88 (4.28)	15.82 (4.86)	13.47 (3.81)	15.74 (3.16)
CCSC-av	9.27 (2.53)	14.65 (3.16)	15.38 (3.47)	13.35 (3.88)	14.38 (3.85)
CCSC-sup	13.85 (3.98)	14.59 (3.47)	14.29 (4.53)	13.79 (4.37)	12.79 (4.54)
PANAS-p	42.51 (8.25[c])	57.38 (7.85)	55.50 (7.81)	57.47 (6.52)	56.65 (9.30)
PANAS-n	26.61 (7.94[c])	31.91 (6.68)	32.09 (7.82)	29.59 (7.20)	31.68 (8.83)
RESE-n	26.05 (5.19)	24.71 (5.02)	26.53 (5.53)	25.79 (3.98)	26.15 (6.11)
RESE-p	29.66 (4.07)	28.94 (3.30)	28.71 (4.21)	29.06 (3.22)	29.59 (4.14)
AEIT	--	.54 (.09)	.50 (.14)	.64 (.12)	.54 (.17)
AEIT-lex	--	.47 (.11)	.44 (.15)	.54 (.14)	.49 (.19)
AEIT-und	--	.67 (.18)	.63 (.22)	.82 (.16)	.63 (.23)

Note: EI-t: Emotional Intelligence training group; C-t: Control training group; TEI: Trait Emotional Intelligence; CIT: Comprehensive Inventory of Thriving; CCSC-pf: Children's Coping Strategies Checklist, Problem-focus; CCSC-pr: Positive cognitive restructuring; CCSC-dis: Distraction; CCSC-av: Avoidance; CCSC-sup: Support-seeking; PANAS-p: Positive and Negative Affect Scale, Positive affect; PANAS-n: Negative affect; RESE-n: Regulatory Emotional Self-efficacy, Regulating negative emotions; RESE-p: Expressing positive emotions; AEIT: Ability Emotional Intelligence Test, Total score; AEIT-lex: Emotional lexicon; AEIT-und: Understanding emotions. CIT: a Calculated by summing normative average scores for each subscale; b Inverse formula of Cronbach's alpha was used to calculate the normative variance of the CIT total score using the normative variance of each subscale and the normative Cronbach alpha; PANAS: c Calculated by averaging scores available as separated values for boys and girls.

AEIT

The ANOVA on preadolescents' AEIT total score revealed that all the effects were statistically significant. Specifically, the interaction showed an increment from T0 to T1 for the EI-t only (Table 2, Figure 2). Planned comparisons highlighted a significant difference between groups at T1, with the highest mean score for the EI-t. The Bayesian analyses strongly supported the existence of a significant score increment for the EI-t, as well as the existence of a significant difference between conditions at T1. By contrast, the same analysis yielded inconclusive results for the C-t.

As for AEIT-lex, the ANOVA showed only a statistically significant main effect of Time, with an increment from T0 to T1. Planned comparisons indicated statistical significance for the difference T0-T1 in both conditions, and no significant difference between conditions at T1. Bayesian analyses substantially supported the lack of the Time x Training interaction, in favour of a strongly supported main effect of Time. For the planned comparisons, Bayesian analyses strongly supported the existence of a T0 vs T1 difference exclusively for the EI-t.

As concerns AEIT-und, the ANOVA showed that all the effects were statistically significant, with the interaction mirroring the effect emerged in the AEIT total score. Planned comparisons highlighted a statistically significant increment in T0 vs T1 scores only for the EI-t, and a statistically significant between-group difference at T1. Bayesian analysis strongly supported the existence of the Time x Training interaction, an increment in T0 vs T1 scores in the EI-t, and a score difference between conditions at T1, whereas it substantially supported the lack of differences in the C-t.

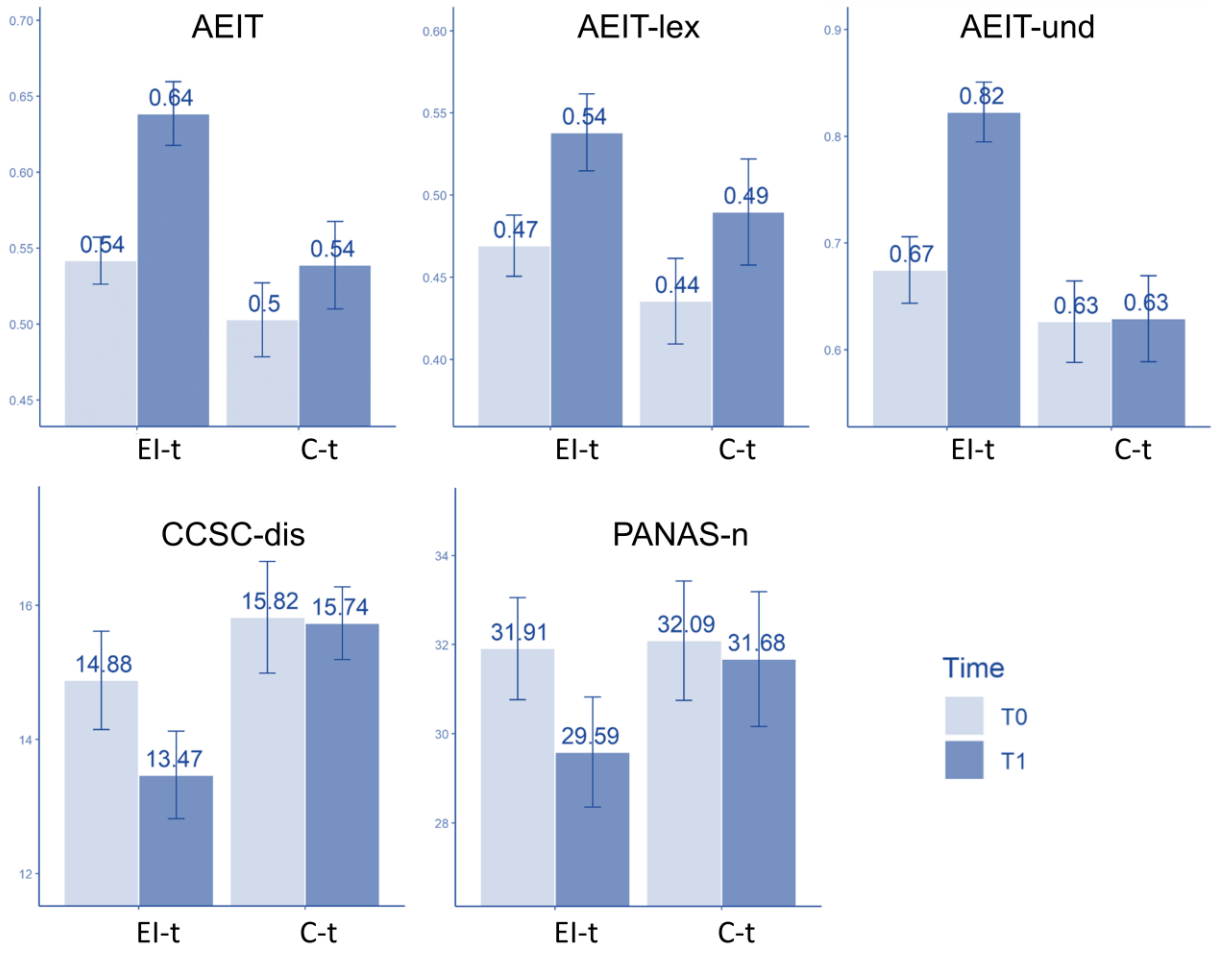

Figure 2. Results of ANOVA on effects on Time and Training on AEIT, CCSC-dis and PANAS-n**.**

Note: EI-t: Emotional Intelligence training group; C-t: Control training group; AEIT: Ability Emotional Intelligence Test, Total score; AEIT-lex: Emotional lexicon; AEIT-und: Understanding emotions; CCSC-dis: Children's Coping Strategies Checklist, Distraction; PANAS-n: Positive and Negative Affect Scale, Negative affect.

PANAS

The ANOVA for PANAS-p showed no statistically significant effects, further confirmed by Bayesian analyses (all BF10<.29). The ANOVA for PANAS-n showed no statistically significant effects. However, Bayesian analysis provided inconclusive support in favour of the null hypothesis for the Time x Training interaction. Planned comparisons revealed a statistically significant T0 vs T1 difference for the EI-t, and the lack of difference in the C-t, the latter effect substantially supported

also by Bayesian analyses. Furthermore, the support of a null difference between groups at T1 was inconclusive (Table 2, Figure 2).

CCSC

The ANOVA for the distraction coping strategy (CCSC-dis) showed no statistically significant effects, and Bayesian analyses provided inconclusive support for the lack of the interaction term. Planned comparisons revealed a statistically significant T0 vs T1 difference for the EI-t, the lack of differences for the C-t, and a statistically significant difference between conditions at T1. Bayesian analyses confirmed substantial evidence for the lack of T0 vs T1 difference in the C-t, as well as substantial evidence in the difference between groups at T1, thus showing the reported diminished use of distraction coping in the EI-t, compared with the C-t, at post-training (Table 2, Figure 2).

Regarding the problem focus strategy (CCSC-pf), the ANOVA showed only a statistically significant main effect of Time, with a decreasing average score at T1. Bayesian analyses supported the lack of differences between conditions at T1, showing also inconclusive results for a change over time in the C-t. Planned comparisons revealed a diminished use of CCSC-pf at post-training for the C-t only (a result that will not be further commented, since exclusively pertaining to the control condition).

The ANOVAs for the other coping styles did not show significant effects.

Table 2. **Results of the statistical analyses on measures revealing significant effects**

Measures	Factors	Statistics*(df)*	*E.S.*	BF_{10}	Support
AEIT	Time	*F(1,60)=23.597***	.28	1140.00	H1
	Training	*F(1,60)=4.969**	.08	2.34	-
	Time x Training	*F(1,60)=4.931**	.08	1.88	-
	EI-t: T0 vs T1	*t(60)=-5.005****	.79	213.08	H1
	C-t: T0 vs T1	*t(60)=-1.865*	.40	1.59	-

	T1: EI-t vs C-t	*t(60)=2.669**	.68	4.78	H1
AEIT-lex	Time	*F(1,60)=16.313****	.21	155.27	H1
	Training	*F(1,60)=1.404*	.02	.68	-
	Time x Training	*F(1,60)=.231*	.00	.26	H0
	EI-t: T0 vs T1	*t(60)=-3.196***	.57	11.15	H1
	C-t: T0 vs T1	*t(60)=-2.516**	.45	2.87	-
	T1: EI-t vs C-t	*t(60)=1.158*	.29	.46	-
AEIT-und	Time	*F(1,60)=10.103***	.14	8.24	H1
	Training	*F(1,60)=7.031***	.10	4.83	H1
	Time x Training	*F(1,60)=9.394***	.14	10.89	H1
	EI-t: T0 vs T1	*t(60)=-4.415****	.73	90.02	H1
	C-t: T0 vs T1	*t(60)=-.080*	.02	.19	H0
	T1: EI-t vs C-t	*t(60)=3.768****	.96	70.73	H1
PANAS-p	Time	*F(1,66)=.519*	.01	.23	H0
	Training	*F(1,66)=.617*	.01	.42	-
	Time x Training	*F(1,66)=.382*	.01	.28	H0
	EI-t: T0 vs T1	*t(66)=-.073*	.01	.18	H0
	C-t: T0 vs T1	*t(66)=-.946*	.17	.29	H0
	T1: EI-t vs C-t	*t(66)=.422*	.10	.27	H0
PANAS-n	Time	*F(1,66)=2.797*	.04	.64	-
	Training	*F(1,66)=.459*	.01	.40	-
	Time x Training	*F(1,66)=1.366*	.02	.39	-
	EI-t: T0 vs T1	*t(66)=2.009**	.33	.93	-

	C-t: T0 vs T1	*t(66)=.356*	.06	.20	H0
	T1: EI-t vs C-t	*t(66)=-1.069*	.26	.40	-
CCSC-dis	Time	*F(1,66)=2.289*	.03	.52	-
	Training	*F(1,66)=3.516*	.05	1.22	-
	Time x Training	*F(1,66)=1.782*	.03	.50	-
	EI-t: T0 vs T1	*t(66)=2.014**	.38	1.65	-
	C-t: T0 vs T1	*t(66)=.126*	.02	.18	H0
	T1: EI-t vs C-t	*t(66)=-2.670***	.65	4.79	H1
CCSC-pf	Time	*F(1,66)=4.286**	.06	1.30	-
	Training	*F(1,66)=.003*	.00	.25	H0
	Time x Training	*F(1,66)=1.072*	.02	.42	-
	EI-t: T0 vs T1	*t(66)=.732*	.15	.26	H0
	C-t: T0 vs T1	*t(66)=2.196**	.33	.99	-
	T1: EI-t vs C-t	*t(66)=.624*	.15	.29	H0

In the column "Factors", for each factor ANOVA effects have been reported, followed by planned comparison analyses. Note: EI-t: Emotional Intelligence training group; C-t: Control training group; df: degrees of freedom; E.S.: effect size, partial eta squared for the ANOVAs and Cohen's d for the t-tests; BF10: Inclusion Bayes Factor; AEIT: Ability Emotional Intelligence Test, Total score; AEIT-lex: Emotional lexicon; AEIT-und: Understanding emotions; PANAS-p: Positive and Negative Affect Scale, Positive affect; PANAS-n: Negative affect; CCSC-dis: Children's Coping Strategies Checklist, Distraction; CCSC-pf: Problem-focus. ANOVA results relied on R package jmv (v2.0), BF10 on R package BayesFactor (v0.9.12-4.2). *p ≤0.05; **p ≤0.01; ***p ≤ 0.001.

Cross-lagged Panel Models Analysis (CLPM)

Separate models were evaluated for each AEIT score. To estimate autoregressive (A and B paths) and reciprocal effects (cross-lagged paths C and D), in each model, a given AEIT score, and one of the measures showing significant changes over time in the EI-t group (i.e., either PANAS-n or CCSC-dis) were used. Significant outcomes are summarized below, whereas complete results are reported in the

Supplementary materials (see Appendix II). Overall, autoregressive effects indicated that measures were relatively stable over time in the EI-t group (standardized regression coefficient values ranged from .464 to .828). The cross-lagged effects were not statistically significant for all the models but one, involving preadolescents' AEIT-lex and PANAS-n in the EI-t (Figure 1, panel B). Specifically, both measures were stable over time, as indicated by their autoregressive coefficients (β=.649 and β=.760, respectively). As regards their reciprocal effects over time, AEIT-lex at T0 did not significantly predict PANAS-n at T1, while PANAS-n at T0 significantly predicted AEIT-lex at T1, suggesting that enriched emotional vocabulary was anticipated by lower levels of negative affect, even when controlling for pre-training emotional vocabulary.

3.4. Discussion

The present study examined the effectiveness of a pilot EI intervention program on both preadolescents' emotional outcomes (i.e., EI, positive/negative affects and regulatory emotional self-efficacy), and variables connected to the psychological functioning (i.e., coping styles and psychological well-being). Results showed that a brief EI training, structured according to the AEI models, was associated to improved emotional abilities, decreased negative affect, and reduced preference for distraction coping strategy in the participants. Further, lower levels of negative affect at the baseline seemed to prompt the enrichment of preadolescents' emotional lexicon over time.

The main outcome revealed that, when compared with controls matched for relevant features, preadolescents who were engaged in the EI training showed higher scores in the AEIT global factor, which represents a set of emotional abilities, including not only the knowledge of various emotions, but also the understanding of complex emotional experiences in specific contexts. Among the EI abilities, understanding emotions seems to be more susceptible to improvements after AEI trainings, and can be considered as the precondition for the development of more complex abilities like emotion regulation (Hodzic et al., 2017). This finding corroborates our hypotheses and previous results, in

which positive effects of EI trainings on emotional abilities were detected at different levels of education (e.g., Di Fabio & Kenny, 2011; Ulutas & Ömeroğlu, 2007). Moreover, it enriches the existing knowledge on the topic, confirming the efficacy of school-based programmes in enhancing EI abilities in children, even when trainings are short and non-intensive in terms of frequency of the activities (e.g., once-a-week sessions for two months). Conversely, as expected, the training was not effective in enhancing TEI, which may be more challenging to develop with respect to AEI (Hodzic et al., 2017), as a consequence of its pertinence to dimensions characterized by greater stability over time and across situations (Petrides et al., 2007). However, this does not preclude the possibility that TEI could be improved by either longer training or interventions specifically targeted on affective-related personality traits and self-perceptions (e.g., impulsivity, self-esteem, adaptability).

Interestingly, we observed a decrease of negative emotions for the experimental group, as measured by the PANAS-n. It is reasonable to hypothesize that the positive impact of the training on some EI abilities (e.g., better understanding of the emotional processes) leads to feel fewer negative emotions. However, the cross-lagged analysis, performed to check PANAS-n and AEIT reciprocal effects over time, suggests a different pattern, which highlights the important role of emotional states in the learning process. Specifically, post-training emotional lexicon of preadolescents was predicted by lower levels of negative affects before the training. Possibly, preadolescents reporting fewer negative emotions at pre-training were more open to learning, thus gaining significant improvement in their knowledge of emotions.

Similarly, the preference for the distraction coping strategy decreased in the experimental group only. Although, in the short-term, distraction helps in reducing the emotional arousal connected to stressors, it becomes a dysfunctional coping style when used in the long-term, leading to avoid the problem (Camisasca et al., 2012). Therefore, the decrement in its preference can be considered a positive outcome specifically linked to the experimental training, rather than to maturational or unspecific training factors (since the effect is absent in the control group). Cross-lagged analysis failed to connect

this effect to an increase in the AEIT levels. Nevertheless, it is worth noting that the training may have enhanced emotional skills not necessarily captured by the AEIT, and changes in distraction coping (as well as in negative affects) might also reflect training-induced improvements not detected by our assessment tool. Likewise, the lack of changes in the other coping styles may be due to the fact that the questionnaire we used to evaluate coping did not include the full set of coping responses practiced during the training (e.g., writing feelings in a diary, accepting negative emotions, thinking about one's strengths). Future research should include more comprehensive measures able to shed light on these aspects.

As regards the other variables included in our study, we did not observe the expected enhancement in the levels of regulatory emotional self-efficacy nor psychological well-being. On the one hand, these findings may likely reflect the short length of the training, that could have precluded an extension of the positive effects on emotional skills to other domains. On the other hand, it is worth noting that regulatory emotional self-efficacy and psychological well-being are closely related to emotion regulation, which is the most challenging factor to develop (Mayer & Salovey, 1997), also in the context of longer trainings.

3.5. Strengths and Limitations

The main strength of the present study was the application of a strictly controlled experimental design, with an active control condition, structurally equivalent to the experimental one, and randomization at the individual (rather than at the classroom) level. In addition, our training focused on preadolescence, a developmental stage still poorly investigated in association to EI, which requires more attention because of the emotional vulnerability that can emerge in this phase. Finally, a large set of measures were employed to assess intervention effects beyond those pertaining to training variables.

Among the limitations of the study, as already acknowledged, some assessment tools could have been less than ideal in capturing relevant training-induced effects, thus reducing the positive findings we

were able to detect. Moreover, the small sample size could have limited the power of the study and the possibility of generalizing the results, although the Bayesian approach guarantees more reliable data interpretation. Finally, due to time restrictions, follow-up measurements were not collected. These limitations should be taken into account in planning future studies on AEI interventions, to reach an adequate balance between the training commitments and the extension of its effects to outcomes associated to psychological well-being.

3.6. Conclusions

The present work has important implications regarding the improvement of preadolescents' emotional skills through the promotion of tailored trainings in educational contexts. First, EI trainings may help all preadolescents to deal with the emotional challenges typical of this age, by enhancing emotional awareness and regulation. Secondly, they may be particularly valuable for students who experience familiar, environmental, or social difficulties (e.g., family conflicts, cyber-bullying, loneliness). Finally, they may have a positive impact on the learning process, enhancing self-efficacy and school motivation in students, thus preventing the risk of individual potential being lost.

In conclusion, our EI intervention produced some promising results, activating a process of change for preadolescents who engaged in the targeted programme. We detected an increase in AEI levels, a decrease in the self-reported negative affect, and in the preference for distraction coping strategy (usually considered dysfunctional in the long-term). However, we did not find any improvement in TEI and in the variables connected to an optimal psychological adjustment. This suggests that eight hours may be sufficient to improve basic emotional abilities and some other relevant variables, but too scarce for enhancing all the measured outcomes, and leads to hypothesize that longer interventions would be required to give participants the necessary time to transfer their acquirements into positive practices and habits (Sin & Lyubomirsky, 2009). These results are in line with previous studies, suggesting that EI can be acquired and promoted from early stages of development (see Puertas-

Molero et al., 2020). The findings of the present study contribute to the advancement of knowledge regarding the implementation of school-based EI interventions, they may orient future studies in planning well-structured EI programs, and, above all, they highlight the importance of promoting the development of EI in educational contexts.

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Chapter 4

Coping with Stress in the developmental ages: A new measure to assess Coping strategies in childhood

4.1. Introduction

Stress is a human phenomenon that can affect all individuals throughout life, and children and adolescents are not exempt from experiencing it (Rew et al., 2012). In their everyday lives, youngsters are required to deal with a stream of stressful situations, that can range from daily troubles (e.g., conflicts with siblings), to more normative problems (e.g., peer rejection), to major or traumatic episodes (e.g., death of a parent) (Garmezy & Rutter, 1983). Young people can be more exposed to stress in specific stages of development, such as the transition between childhood and adolescence, in which the changes that occur in physical, cognitive and emotional spheres may lead to a greater vulnerability (Bacter et al., 2021).

Coping represents "the child's way of getting along—with whatever equipment he has at his developmental stage—and his own individual makeup, as he faces the particular external and internal problems of his situation" (Murphy, 1974, p. 71). The implementation of proper abilities to cope with demanding circumstances should be encouraged from early stages of development, being crucial for current and future adjustment. On one side, the choice of adequate coping responses is likely to produce immediate positive outcomes in dealing with a wide range of problems, increasing perceptions of self-efficacy and emotional well-being (Sandler et al., 2000). On the other side, the preference for characteristic ways of coping may push children versus defined developmental trajectories and may be a precursor of patterns of coping throughout adulthood (Compas et al., 2001). The importance of adaptive coping in determining successful adaptation to the environment (e.g., through the regulation of unpleasant cognitions and emotions generated by the stressors) has encouraged researchers to investigate the associations between coping, emotional variables and psychological well-being. Various authors have postulated theoretical links between coping and Emotional Intelligence (EI), embracing the notion of adaptive coping as "Emotional Intelligence in action," and suggesting that emotional competence might predispose individuals to adopt effective coping behaviours that can determine positive outcomes (Zeidner et al., 2006). Recent studies conducted with children have

confirmed the positive associations between adaptive coping, psychological well-being and Emotional Intelligence (EI) (Pauletto et al., 2021), and have demonstrated that the improvement of basic emotional skills may decrease the propensity for the employment of specific coping strategies, such as distraction (Pauletto et al., 2022).

Despite the fact that coping behaviour of youngsters represents a salient area of interest for clinical and developmental research, relatively few advances have been made in the conceptualization and evaluation of the construct, and some key points still need to be addressed. One reason for this lack of progress in the field may be because coping research continues to be guided by models of adulthood that have been extended down to youngsters, and this can be less than optimal in representing coping processes in developmental ages (Compas, 1998). Indeed, the repertoire of coping abilities and responses of children may be quite different from those exhibited by adults, in that numerous developmental and environmental factors can limit the possibility for the children to employ a broader set of strategies (Fields & Prinz, 1997). In a recent meta-analysis, Compas and colleagues (2017) claimed the need of reaching a clear consensus on the definition and conceptualization of the construct, in order to determine the structure of coping, to identify categories and subtypes of responses, and to guide the selection of proper measures for research, particularly for the developmental ages. It is plausible, indeed, that the challenge of framing a comprehensive conceptual model of coping also reflects the challenge of designing appropriate measures to evaluate it. Some meta-analyses have highlighted the weak points shared by existing measures, often characterized by the lack of conceptual clarity, scarce representativeness of the scales, and poor psychometric properties, and have furnished suggestions to improve coping assessment, such as the collection of items representing numerous strategies employed in different situations, and the usage of appropriate techniques (e.g., confirmatory rather than exploratory factor analysis) to evaluate the psychometric properties of the measures (Compas et al., 2017; De Ridder, 1997).

Currently, in the coping literature, there is a lack of availability of comprehensive scales specifically designed for youngsters, aimed at evaluating the different coping responses employed to deal with various stressful encounters. Most of the existing measures, indeed, are not developed explicitly for children, as they are downward extensions of measures for adults, and they are not fully adequate to capture the complexity of the coping processes in the developmental ages. Also, current measures of coping take into account a limited number of coping dimensions, usually rely on dichotomic categorizations, and ask individuals to think about hypothetical stressors rather than to present concrete examples of demanding events. Choosing the proper assessment tools for evaluating coping in childhood may also be complicated by the fact that few measures have been translated and validated into specific language contexts, such as the Italian one.

On the basis of these issues, the development of a new coping inventory was undertaken, in a perspective of enriching the existing coping assessment with a useful tool aimed at evaluating the diverse possible responses of children to various daily stressors. The availability of a more comprehensive measure of coping in childhood may also allow to expand the knowledge on the processes through which coping and emotional variables interplay in determining psychological adjustment.

The goal of this chapter is to elucidate the rationale and the procedure that has guided the implementation of the questionnaire. The next paragraphs will present an introduction to the literature findings related to the link between coping and psychological and emotional well-being. As well, issues related to existing measures of coping for children are specified, followed by explanations of the steps taken to develop the new questionnaire.

4.2. Coping and Adjustment in the developmental ages

Given that the exposure to stress is a strong predictor of symptomatology in youth, the importance of investigating coping as a risk/protective factor has become a prominent interest in the developmental

research (Compas et al., 2017). Past research has largely examined links between the employment of different coping styles and psychological and emotional well-being in an attempt to identify adaptive and maladaptive patterns. Specifically, problem-focused and engagement coping have been associated with better adjustment, whereas emotion-focused and disengagement coping have been linked to poorer adjustment (Compas et al., 2001). Problem-focused strategies might serve protective functions because, by analysing the situation and contemplating possible solutions for the problem, individuals are more prone to action, they may perceive themselves as more efficacious when facing demands and, consequently, can prevent becoming overwhelmed by negative emotions. Conversely, emotion-focused strategies may exacerbate the effects of stress and become risk factors in the development of symptomatology; indeed, by disengaging with the stressor, individuals are induced to avoid the problem and to generate negative cognitions about the self and the circumstances. However, findings that disconfirmed these general patterns emphasize the need to consider contextual variables, that can moderate or mediate the association between the preference for specific coping strategies and psychological well-being (Compas et al., 2001). One of these aspects concerns stressor controllability, i.e., the degree of control that children have or perceive to have over specific stressful situations, which can influence both the choice of coping strategies in dealing with stressors and the coping-adjustment association. As regards the selection of coping responses, the literature suggests that problem-focused strategies, rather than emotion-focused strategies, are primarily chosen when an aversive situation is (objectively or subjectively) under an individual's control (Gamble, 1994). Concerning the link between coping and adjustment, previous evidence highlighted that the use of active coping (e.g., engagement and problem focus strategies) determined a greater social and behavioural functioning only in the context of controllable stressors, such as arguments with peers (Clarke, 2006). Given the wide range of stressors that children can encounter (e.g., personal illness, parental conflict, school pressure, peer rejection), past research has examined the association of coping and well-being across many types of stressors and the frequency with which children experience them. Findings have

revealed that more common events, like interpersonal stressors and family problems (e.g., parental conflicts, economic strain), were strongly associated to symptomatology, especially when dealt with the employment of disengagement coping strategies (e.g., Compas et al., 1988; Wadsworth & Compas, 2002). In recent years, more complex models have been tested to investigate the possible reciprocal effects of stress, coping and adjustment. According to these models, stress can interfere with coping processes and contribute to the onset of psychological problems, whereas maladjustment and symptomatology may concurrently generate experiences of stress, and undermine the implementation of coping resources (Zimmer-Gembeck & Skinner, 2016). For instance, it was demonstrated that the usage of maladaptive coping strategies, like avoidance, preceded an increase in symptoms of anxiety and eating pathology in preadolescents, as well as depressive symptoms predicted an increase in maladaptive coping over time (Richardson et al., 2020). All these findings suggest that the adoption of active and flexible coping strategies may contribute to enhance well-being in youth, whereas the reliance on less adaptive styles can put individuals at risk of developing psychological problems (Compas, 1987). For this reason, the promotion of programmes aimed at promoting adaptive ways of coping, and the refinement of measures that examine how youngsters cope with stress have become fundamental priorities for current research in the developmental ages. As regards the implementation of coping programmes, evidence showed that, despite the heterogeneity in methodological and outcome assessment, school-based prevention programmes on stress management and coping efficacy were quite effective in reducing stress symptoms and in enhancing coping skills (see meta-analysis by Kraag et al., 2006). Concerning the evaluation of coping, which is the main topic of this chapter, systematic efforts have been implemented to design psychometrically-sound instruments to evaluate coping in youth, especially in adolescence. However, the complexity of the construct has made it difficult to generate comprehensive tools able to capture the various aspects of the coping process. Future investigations should be concurrently conducted in the areas of coping-based intervention

programmes and coping measurement in order to study in depth causal relationships between coping and psychological adjustment.

4.3. Measurement of Coping in the developmental ages

Four approaches have been primarily used to evaluate coping responses in children and adolescents: interviews, self-report and other-report questionnaires, direct observations of behaviour, measures of physiological processes. Among these measures, self-report questionnaires have been largely employed in developmental research, as they can provide quite reliable measurement of coping efforts of youngsters, including covert cognitive strategies that are hardly observable by other informants (Compas et al., 2017). The various questionnaires developed to assess coping differ in features such as the theoretical framework on which they rely, the coping strategies/styles included in the evaluation, and the sources of stress that are taken into account. A key element in the coping evaluation refers to the dimensions or categories in which coping strategies can be grouped; they are addressed by the different measures depending on the adopted theoretical perspective. Mostly, coping has been evaluated by using dichotomic categorizations (e.g., problem-focused vs emotion-focused, approach vs avoidant coping) that are commonly used in the research because they are simpler to operationalize, but they are not representative of the full range of youth coping responses. In addition, the classification of strategies into dichotomous macro-categories such as adaptive or maladaptive coping may lead to overgeneralizations, because strategies usually considered as dysfunctional (e.g., distraction, wishful thinking) can assume adaptive value when used in the short term for an immediate release of the emotional distress. Few tools conceptualize the construct of coping as a dynamic, person-environment interactive, multifaceted phenomenon, expressed through the adoption of a broader set of responses. Measures relying on such multidimensional models are considered more effective in capturing the diversified ways in which children and adolescents cope with stress, and the individual differences in the nature and function of coping (Compas et al., 2001). Among the existing coping questionnaires

based on multidimensional models, two measures were found as the most used in the developmental ages (Compas et al., 2017): the Responses to Stress Questionnaire (RSQ; Connor-Smith et al., 2000) and the Children's Coping Strategies Checklist-Revision 1 (CCSC-R1; Ayers et al., 1996; 1999). The RSQ evaluates volitional coping efforts and involuntary responses to peculiar domains of stress and specific stressful events. It is composed of 57 items representing 3 dimensions of coping responses: Voluntary vs. Involuntary, Engagement vs. Disengagement, Primary vs. Secondary control coping. In the first part of the inventory, participants are required to rate the frequency with which they have encountered a series of stressors; in the second part, they have to report the ways of coping they applied to face specific stressors. Items are rated on a 4-point Likert scale indicating the degree to which each response was enacted by the individual. The CCSC-R1 evaluates dispositional tendencies to cope with stress and is comprised of 13 categories loading to 5 dimensions: Problem-focused coping and Positive cognitive restructuring, Distraction, Avoidance, and Support-seeking strategies. The CCSC-R1 requires children to think about a hypothetical stressor and includes 54 statements representing the various coping strategies. Respondents are required to rate, on a 4-point Likert scale, the frequency with which they usually apply the coping strategies described in the items. To the best of our knowledge, in the Italian context, the CCSC-R1 is the only available measure evaluating coping responses in children, since the other existing measures are targeted to adolescents.

Coping inventories can be also distinguished on the basis of the type of approach with which coping is considered. The *dispositional approach* (trait-like) argues that individuals have fairly stable coping preferences that are employed in a variety of circumstances, thus the tendency toward a particular way of coping is the core of the evaluation. The *situational approach* (state-like) conceptualizes coping strategies as dynamic efforts in response to specific stressful situations, thus the variety in coping behaviours in response to particular types of stressors is the main goal of the evaluation. Both the conceptualizations of coping as either a trait (i.e., fixed) or a state (i.e., flexible) process present advantages and disadvantages. The dispositional approach contributes to reducing the complexity of

coping assessment, but it fails in capturing situational variability in coping responses. The situational approach is likely to be more predictive of coping outcomes in many situations, but it is less informative on the habitual ways of coping. However, situational measures appear to be more suitable for the evaluation of coping in the developmental ages than dispositional measures, because they can provide more information about the level of control associated with a stressor (Clarke, 2006). In addition, since these kinds of measures portray concrete and specific problems, they make it easier for the children to identify themselves in the situation and to recall the strategies employed to manage it.

Despite efforts made by previous research in developing measures of coping for youngsters, the evaluation of the construct remains problematic (Compas et al., 2017). The existing tools for the coping evaluation in youth are heterogeneous overlapping measures that reflect the lack of consensus in defining and operationalizing the structure of coping. Also, they seem to be characterized by limitations, such as the lack of a precise underlying theoretical framework, the examination of a restricted set of coping responses and stressful situations, and the insufficient attention given to the psychometric properties (Connor-Smith et al., 2000). In order to overcome some of these limitations and to improve the coping assessment literature, the development of a new coping inventory aimed at evaluating context-specific coping in school-aged children was undertaken. The evaluation of various coping strategies in specific contexts allows for an examination not only of the individual differences in the use of strategies, but also the variety of responses that children can apply in dealing with specific stressors. Arguably, this examination can be fundamental to advance the knowledge on the coping process in childhood, a phase of development in which new coping strategies (e.g., cognitive restructuring) emerge, and previous strategies (e.g., support seeking) begin to differentiate, in consequence of the development of more complex language and metacognitive capacities.

4.4. The development of a new measure of Coping

The initial stages of the project for the creation of the new measure of coping took place at the end of 2019, with the development of the questionnaire and the recruitment of participants for the first evaluation. The sample was composed by children attending the fourth and fifth grades in primary schools of two Italian cities. However, due to the pandemic Covid-19, the in-person assessment was precluded (because of the impossibility for external personnel to enter the school environment), and the online assessment failed (because children, already overwhelmed by online teaching, found difficulties in undertaking other online activities). The persistence of the emergency status has not allowed for the collection of data and to carry out the research. For this reason, the present work can be considered the preliminary stage of a study which is still to be realized and whose aim is to validate the new measure of coping we created in this phase.

A crucial premise for the development of a new assessment tool is the presence of a theoretical basis and an internal coherence that can properly guide the entire procedure of the implementation of the measure, allowing the development of a clear rationale defining objectives and methods. The choice of the appropriate theoretical framework was preceded by a rigorous examination of the coping models and inventories which have been employed to study coping in primary-school children. Such investigation has led to a recognition that most of the existing measures are based on dichotomic categorizations of coping: problem-focused vs emotion-focused coping, engagement vs disengagement coping, and approach vs avoidant coping. Given that a two-factor distinction between types of coping is considered too simplistic to represent the multifaceted coping process (Carver et al., 1989), multidimensional models, which encompass a more comprehensive set of responses, have been taken into account. In particular, the five-factor model of coping tested by Ayers and colleagues (1996) has been considered. The model comprises the following higher order categories of coping: Problem-focused strategies and Positive cognitive restructuring, Distraction, Avoidance, and Support seeking strategies.

A second important decision regarded the type of approach toward stressors to evaluate (i.e., a hypothetical and generic stressor that each respondent can imagine vs specific and concrete stressors specified in the questionnaire). Most of the existing coping questionnaires are based on dispositional approaches, in which children are required to think about hypothetical problems they have previously encountered, and to rate the frequency with which they had applied specific coping strategies to deal with it. Given that situational approaches offer the opportunity to include multiple stressful encounters in the evaluation and to capture variation in behaviour due to these specific situational demands (and therefore the important aspect of coping flexibility), this kind of approach was preferred.

The next step consisted in the selection of scenarios representing stressful situations typically encountered by children. Minor hassles occurring in the daily life were included, because major events are less representative of the typical stressors encountered by most of the children. Noticeably, minor life events have proved to exert, rather than major events, a greater impact on psychological well-being of youth when their long-term effects are taken into account (Seiffge-Krenke, 2000). Previous research highlighted that the most common problems reported by children in the age range of 9-14 years are related to school, family, health and peer relations (Compas, 1987; Spirito et al., 1991). Therefore, ten specific stressful situations were selected pertaining to relevant domains of living, such as problems at school (e.g., losing competitions, difficulties in achieving a task, disapproval from teachers), health issues (e.g., sickness of family members and own health conditions), interpersonal hassles (e.g., mockeries, friends moving away, conflicts with peers), family demands (e.g., denial of permissions by the parents), general troubles (e.g., breakage of valuable objects).

Two important factors have been considered in ideating the stressful situations: *stressor controllability* and *occurrence of stressful events*. Stressor controllability refers to the degree of control that individuals can have (or perceive to have) over the specific stressful encounter. Researcher-defined controllability of the environmental stressors, rather than to perceived controllability, were referenced, because situations objectively recognized as controllable (or uncontrollable) are easier to

operationalize and evaluate than situations that are subject to a personal judgement of control. Objective controllability was assumed as "the degree to which the objective conditions of a stressful situation can be prevented or eliminated by the abilities, resources, or actions of a typically developing child or adolescent" (Clarke, 2006, pp. 13). Controllable or uncontrollable events are defined on the basis of two principal dimensions. First, *temporality*, which refers to the fact that events could be still ongoing and therefore somehow changeable (e.g., as in difficulty in solving a school task), or already concluded (e.g., as in competition being lost). Second, *problem causality*, which refers to the agents determining the stressful events, i.e., children themselves (e.g., as in breakage of a valuable object), other individuals (e.g., as in mockery) or external forces (e.g., as in illness of a family member). Ongoing stressors and events acted out by children themselves were expected to be more controllable with respect to concluded (therefore no more changeable) events and stressors determined by other agents and external forces. Half of the situations have been designed as controllable scenarios, the other half as uncontrollable scenarios in the questionnaire.

Occurrence of stressor encounters referred to the frequency with which children may have experienced the event itself (Gamble, 1994). Therefore, events that children may have frequently encountered in their daily life (e.g., conflict with peers) from events that can have occurred occasionally or even rarely (e.g., illness of a family member) were distinguished. To prevent the possibility that children would refuse to answer the questions since they had never experienced that specific situation, they were asked to identify themselves in all the situations by imagining their own possible reactions. In the questionnaire, 80% of the events were classified as quite familiar for a child, 20% as less familiar.

After creating the scenarios, a list of items expressing the different coping responses was generated. As previously mentioned, five higher-order categories of coping, which were found by previous research to be representative of potential responses employed by the children in dealing with stressors (Ayers et al., 1996), were selected: Problem-focused strategies, Positive cognitive restructuring, Distraction, Avoidance, and Support seeking strategies. Remarkably, these five coping dimensions did

not completely mirror the correspondent dimensions of the CCSC-R1 (Ayers et al., 1996). Indeed, particular attention was posed in capturing the diverse expressions of each coping strategy in the new questionnaire, by discerning various forms of Avoidance and Support seeking, and by precisely configuring Distraction, Positive cognitive restructuring and Problem focus.

In conceptualizing Avoidance, two possible forms were considered: *behavioural avoidance* referred to the behavioural efforts to move away from the problem (e.g., by distancing from a teaser), and *cognitive avoidance* involved the attempt to avoid thinking about the stressor (e.g., by ignoring a committed damage). In addition, by partially following the operationalization of Avoidance coping proposed for adult models by Sica et al. (2008), two types of possible disengagement from the stressor, i.e., *denial* and *withdrawal*, were used. Denial consisted in refusing to acknowledge that the event has occurred (e.g., by rejecting to believe in the presence of a sickness); withdrawal reflected a renunciation to engage with the problem (e.g., by giving up a friendship in consequence of a friend moving away).

In formulating items for Support seeking strategies, two prominent aspects were taken into account: the *kind* of support sought, and the different *sources* of support on which children can rely. Regarding the kind of support, help-seeking related to the request of a concrete aid or assistance in dealing with the problem (e.g., by asking suggestions during a challenging school task), and emotion-focused support was associated with the involvement of others for the purpose of comforting and relieving the emotional distress (e.g., by confiding to someone own feelings). Concerning the sources of support, adult agents were included, such as parents and teachers, but also peers, given the observable increased tendency of older children to turn to peers as a source of support, especially for dealing with daily issues such as homework and social problems (Zimmer-Gembeck & Skinner, 2011).

Distraction strategy was connoted as a set of behavioural tactics that reflected the engagement in alternative activities, such as playing games or watching tv, with the purpose of reducing the emotional distress while maintaining the awareness of the stressor. Behavioural forms of distraction were

preferred to the cognitive forms (which consist in redirecting attention toward alternative thoughts), because cognitive responses, which begin to emerge in late childhood, with the refinement of cognitive capacities, are more frequently used in later stages of development, such as adolescence (Skinner & Zimmer-Gembeck, 2007).

Regarding Positive cognitive restructuring, particular attention was given to conceiving this strategy as an attempt to re-evaluate a negative situation in a more positive light (e.g., by believing a friendship will continue after a friend moving away), rather than as an optimistic illusion that things will necessarily turn out better, or as a tendency to minimize the problem and its consequences.

Lastly, Problem focused strategies were declined as a series of thoughts and actions reflecting the efforts to change the problematic situation, such as thinking about the problem, seeking information, generating possible solutions, and planning actions (e.g., by training with more efforts after losing a competition).

In formulating scenarios and items, proper attention was given to use an adequate language reflecting the reading level of primary-school children, in order to facilitate their understanding of the situations and responses. Therefore, aspects such as the length of the phrases, lexicon simplicity, clarity and readability of the sentences were addressed. To test language comprehension and possible difficulties in interpretation, the first version of the questionnaire was administered to a small group of primary-school children, whose feedback was helpful for further simplifying some of the items of the last version (see the questionnaire in Appendix V).

In order to evaluate the responses, a Likert-type format was utilized to obtain a rating of the degree with which children enacted each coping strategy to deal with the stressful situations presented in the scenarios. Thus, responses were rated on a scale ranging from 1 (=never) to 4 (=always), indicating how frequently each strategy had been employed in that context. For the scoring procedure, the sum of each item score was determined to obtain a total score. Ideally, at a general level, by comparing the responses given by different children, it would be possible to identify which strategies respondents are

prone to employ across diverse contexts. At the individual level, by examining the degree with which each strategy was selected by each child, dispositional tendencies and preferences for a specific strategy could be observable. In turn, the presence of both preferred strategies and a wide set of strategies varied according to the contexts can give an estimation of the coping flexibility of the children.

To sum up, the new coping questionnaire was composed of ten scenarios representing different stressful situations experienced by the children, and five potential ways of coping with each scenario, for a total of 50 items. In formulating the scenarios, stressor controllability and frequency of encountered events were taken into account; in formulating responses, diverse forms of coping, such as behavioural and cognitive, active and avoidant strategies, were included. A 4-point Likert scale was used to rate the answers, in terms of frequency of the adoption of each strategy.

An important goal for future implementation of the questionnaire will concern its administration to a larger sample of children in order to verify the appropriateness of the language, the representativeness of the scenarios and of the responses. A final version of the questionnaire is intended to test the psychometric properties of the measurement itself.

The final version of the questionnaire is available in the Supplementary materials (see Appendix V).

4.5. Strengths and Limitations

The new questionnaire presents strengths and limitations as well. Some relevant features can make it a valuable tool for studying the response to stress in childhood. First, the development has been based on a solid conceptual framework, that reflects the multidimensional and dynamic characteristics of the coping process (Ayers et al., 1996). Second, being based on a situational approach, the new tool presents the advantage of examining coping responses to specific categories of stressors, rather than to general or hypothetical situations, which is a more suitable way for investigating coping in childhood. Third, in creating the scenarios representing the stressful situations, relevant features, such as stressor controllability and frequency of encountering, have been controlled. In generating the

coping responses, various forms and expressions of possible strategies used by the children have been differentiated. In formulating the items, particular attention has been paid in using simple linguistic expressions, to guarantee readability and comprehension.

Among the limitations, there is the possibility that some scenarios were not fully representative of the demanding situations encountered by the children. Indeed, in their everyday lives, children can be exposed to a wide range of stressors, with a wide variety and severity depending also on the environment and the living conditions of the individual. However, specific instructions to reduce this possibility were furnished: indeed, respondents were asked to imagine the experience in the illustrated situation even though it may not have ever been encountered. Similarly, the coping strategies represented by the items may not necessarily mirror the full repertoire of possible responses employed by the children in handling a stressful situation. However, five higher categories of responses were selected on the basis of previous findings that identified these strategies as the most representative of children's efforts in dealing with life demands (Ayers & Sandler, 1999). Lastly, although inventories that include a certain number of situations and a large set of responses might present the advantage of being useful to examine in depth the coping process in childhood, they could be considered as quite demanding for younger children.

4.6. Conclusions

This chapter illustrates a new assessment tool created with the purpose of evaluating the different coping responses employed by the children to deal with a set of specific stressful situations. The development of the questionnaire was encouraged by the evidence of a lack of context-specific measures evaluating a broader set of children's coping responses, especially in the Italian scenario. Indeed, previous research has pointed out the limitations of the existing measures of coping in childhood, which generally include a restricted set of strategies that may be applied in hypothetical stressful situations, precluding a deeper examination of children's behaviours in response to various

adversities and daily challenges (Pauletto et al., 2021). The implementation of the questionnaire was also guided by the need of relying on more comprehensive measures specifically designed for children that allow a deeper investigation of the processes through which coping and emotional variables interplay in affecting psychological well-being. Indeed, recent findings have confirmed the associations between adaptive coping strategies and both psychological well-being and Emotional Intelligence (EI) in childhood (Pauletto et al., 2021), and have proved that the implementation of emotional abilities of preadolescents can decrease the preference for the adoption of specific coping strategies, such as distraction (Pauletto et al., 2022).

In their everyday life, youngsters may have to deal with various stressful experiences, such as learning difficulties, conflicts with peers, family issues: ongoing, enduring experiences, particularly those over which children have (or they perceive to have) no control, were found as the most pervasive and disturbing stressor affecting youth (Kraag et al., 2006). In recent years, new sources of stress, connected to the spread of pandemic Covid-19, may have increased the experience of negative, perturbing emotions, such as fear, sadness, grief and insecurity, and have exposed children to a greater vulnerability and to the risk of incurring in psychological problems (Racine et al., 2021). The ways in which youngsters respond to peculiar adversities and life challenges are crucial to determine outcomes associated to well-being, such as self-efficacy, sense of mastery, emotional management (Blount et al., 2008). Indeed, the employment of flexible and efficacious coping strategies may lead to successful adaptation, whilst the engagement in reiterated inadequate or ineffective strategies may increase the risk of developing psychological symptoms and may affect subsequent development (Compas et al., 2001). Given this evidence, the evaluation of coping strategies/styles in youngsters becomes a fundamental premise to both advance the understanding of normative development and health, and to increase the knowledge on the occurrence of psychological problems. In addition, adopting a preventive perspective, the measurement of coping may hold a relevant potential for guiding the design of intervention programmes focused on promoting core coping resources and coping efficacy. In

particular, measures of context-specific coping, such as the one here presented, can provide valuable information about which coping strategies need to be implemented and reinforced when specific stressors are encountered, and which have the biggest impact on outcomes and can foster resilience.

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Chapter 5

General Discussion

5.1. General Discussion

Positive mental health, which reflects the equilibrium between the individual experiences and resources and the environmental responses, contributes significantly to personal well-being and quality of life (Jané-Llopis et al., 2005). In these current times, the pressure of daily living and the new challenges derived by the changes in our society may have generated higher levels of stress especially in youngsters, augmenting their vulnerability and putting them seriously at risk of developing psychological problems (Stengård & Appelqvist-Schmidlechner, 2010). Given the increasing number of children and adolescents experiencing mental health problems (Kieling et al., 2011), the promotion of mental well-being and the prevention of psychological maladjustment have become fundamental priorities for current research. Past evidence has demonstrated the effectiveness of prevention and promotion approaches not only in enhancing emotional competence (Cheney et al., 2014) and coping skills (Kraag et al., 2006), but also in increasing psychological well-being and in reducing symptoms of mental disorders (Jané-Llopis et al., 2005). However, several issues still need to be addressed by the research to further understand the processes underlying psychological functioning in youth, and to evaluate approaches aimed at improving an optimal adjustment. For instance, despite the great potential showed by school-based intervention programmes in promoting variables associated to children's mental health, their assortment in terms of content, methodology, and employed measures interfere with the identification of the distinctive features that can make them effective (O'Reilly et al., 2018). Also, methodological and conceptual flaws underlying the existing measures of variables related to adjustment might limit the possibility to ascertain the effectiveness of the programmes, thus requiring further investigation on the appropriateness, sensitivity and responsiveness of the measuring tools (Tsang et al., 2012).

The present work starts from these premises to address some key points concerning the implementation and evaluation of targeted programmes and measures related to psychological functioning in children, with the final aim of advancing the understanding of the processes that promote an optimal adjustment

in youth. Specifically, the aims of the current research were threefold: first, the identification of the variables that play a crucial role in determining positive mental health in children; second, the development of a school-based intervention programme to improve psychological and emotional well-being in children; third, the implementation of evaluation tools targeted to the developmental ages, suitable to explore dimensions of psychological functioning related to real-life contexts.

In the first Study, the relationships between children's psychological well-being and a series of relevant psychological variables (such as Trait Emotional Intelligence (TEI), emotional self-efficacy and coping), and cognitive variables (such as verbal comprehension and abstract reasoning) were examined. Previously, these variables were not combined in the same research in order to estimate their contribution to childhood adjustment. Results confirmed the well-known associations of psychological well-being with emotional and coping-related variables (Caprara et al., 2006; Piqueras et al., 2019; Zammuner, 2019). A lack of association between psychological well-being and general intelligence was also detected, and this emphasizes the salience of psychological and emotional variables, with respect of cognitive ones, for children's mental health. Findings highlighted the crucial role of TEI, among the other variables, in determining children's well-being, corroborating previous evidence that qualified TEI as a decisive personal resource for an optimal psychological functioning (e.g., Di Fabio & Kenny, 2016; Piqueras et al., 2019). The unexpected negligible contribution of coping to psychological well-being did not mirror previous evidence, which detected a positive impact of adaptive coping strategies on adjustment for children (Compas et al., 2001), even in the context of more complex models in which coping responses functioned as mediators or moderators in the link between emotional variables and mental health (e.g., Downey et al., 2010). Further studies including more comprehensive and reliable tools for the coping assessment in the developmental ages could shed lights on these relationships. The findings of Study 1, valuable for the identification of the most relevant factors for adjustment in childhood, constituted the basis for the subsequent studies, focused on both the development of an intervention programme aimed at strengthening emotion-related aspects

for psychological well-being promotion, and the implementation of a new tool for the assessment of coping in youngsters, respectively.

The second Study was aimed at examining the effectiveness of an Emotional Intelligence (EI) intervention programme to enhance, in preadolescents, emotional skills and other variables related to psychological functioning, such as regulatory emotional self-efficacy and the usage of adaptive coping strategies. Results highlighted that a brief non-intensive training, structured according to the Ability Emotional Intelligence (AEI) models, was effective in improving specific emotional abilities, in decreasing negative affect, and in reducing the self-reported usage of distraction coping. Indeed, preadolescents who were engaged in the EI training showed, with respect of controls matched for relevant features, an increase in the knowledge of various emotions and in the understanding of complex emotional experiences in specific contexts, confirming previous findings that reported positive effects of school-based EI programmes on emotional abilities, at different levels of education (e.g., Di Fabio & Kenny, 2011; Ulutas & Ömeroğlu, 2007). In addition, results revealed that the improved emotional lexicon of preadolescents over time was determined by lower levels of negative affects at the baseline. This finding highlighted the crucial role of emotions in the learning process, in line with previous evidence that documented the impact of emotional states in processes of attention, memory, reasoning and motivation (Tyng et al., 2017). However, since there were no improvements in TEI nor in the other variables measured, it is arguable that the shorter length of the training may have limited possible changes in more stable emotional traits and in domains of psychological functioning that required more efforts to be implemented. Overall, the EI intervention programme provided encouraging results, emphasized the importance of promoting the development of EI in educational contexts, and suggested that EI can be acquired and promoted from early stages of development (see Puertas-Molero et al., 2020).

Given that some evidence highlighted the role of coping in mediating the relationship between EI and positive mental outcomes (e.g., Downey et al., 2010; Mikolajczak et al., 2009), the third Study focused

on the development of a new assessment tool aimed at evaluating the variety of coping strategies that children can employ in dealing with specific stressful situations. The main goal was the implementation of a theoretically based and psychometrically sound measure, which could fill some gaps of the existing literature in coping assessment and could advance the understanding of the mechanisms through which young people respond to stress. The questionnaire is based on multidimensional and situational models of coping, which emphasize the dynamic and multifaceted structure of the construct. Despite the extensive work conducted in selecting the preparatory material, in creating the items and coping responses, and in recruiting participants for preliminary testing, this project is on hold, because the pandemic Covid-19 precluded the possibility to enter in the school environment for an in-person assessment. Implementing the evaluation tool and testing its psychometric properties are fundamental priorities for further investigation, to establish whether the new questionnaire can be a valuable instrument for the measurement of the coping strategies employed by the children.

To sum up, the present work showed that, among a series of psychological and cognitive variables, EI accounted for a greater amount of variance in explaining psychological well-being of children. Thus, EI was a variable of interest for the development of a brief school-based intervention programme with the purpose to enhance not only emotional skills but, crucially, also psychological adjustment of primary-school children. Taken together, these results shed light on the relevant dimensions that should be taken into account to promote psychological well-being in youth, and call attention to the aspects that should be addressed by future research in developing both promotive intervention programmes and evaluation measures that can become practical and useful tools to assess the effects of the interventions themselves in research, educational and clinical contexts.

5.2. Strengths and Limitations

The studies presented throughout this dissertation should be interpreted in light of several strengths and limitations. One relevant strength is the usage of numerous tools measuring different psychological variables, that can point to a more comprehensive and systematic picture of psychological functioning in childhood. To this aim, even the new measure of coping, when properly implemented and tested, could become a valuable instrument to study how children respond to specific stressful circumstances. In addition, the present studies focused on late childhood and preadolescence, particular stages of development which have been poorly investigated, and require, instead, proper attention in consequence of the greater vulnerability that can emerge from relevant cognitive, emotional, behavioural, and physical changes, and that can put individuals at risk of developing psychological problems (Bacter et al., 2021). Lastly, the projects outlined in this dissertation were guided by solid theoretical frameworks, that constituted the basis for the implementation of both the EI training and the inventories, as well as rigorous methodological procedures, that characterized the development of the research design for the intervention programme.

Although the findings of this work are promising, some limitations must be considered. A first weakness point is related to the restricted sample size, that, although appropriate for pilot studies, could have limited the power of the study and undermined the generalization of the results. Moreover, participants were recruited from only one primary school, located in the Northern Italy, which may have been a limited representation of the Italian children population, and of the various types of primary schools of the entire Italian context. Second, the lack of follow-up examination, due to time restrictions and then to the pandemic Covid-19 emergency, precluded both to make inferences regarding causal relationships between variables, which instead can be informative of contextual and developmental factors involved in child functioning (Grammer et al., 2013), and to evaluate the effects of the intervention programme over a longer time period, which can determine whether the intervention programmes are able to sustain the initial findings (Catalano et al., 2004; Muñoz-Oliver et al., 2022). A third limitation is related to the measurement of the variables of interest, since in both studies only

self-report tools were used, except for a checklist on children's behaviours that, as reported in Study 1, was completed by their teachers. The usage of self-evaluation measures in childhood can be complicated by a series of factors, such as the limited cognitive and introspection abilities of the children, or their tendency of furnishing quite positive self-evaluations. Nevertheless, self-report questionnaires, that have been found to provide reliable data when administered to older children (Conijn et al., 2020), present the advantage of representing a unique point of view, being children the best source of information for rating their inner states and feelings (Sturgess et al., 2002). For future studies, the employment of multi-informant methods of assessment should be considered, as it could help to improve the methodological rigor of the studies and to acquire more information on child functioning. It must be noticed that, in Study 2, emotional skills were measured using a performance test implemented by our workgroup, due to the absence, in the Italian context, of AEI tests targeted for children. Limitations, but also strengths, derived from the employment of such a measure need to be taken into account in examining the results of the training.

5.3. Implications and Future directions

The present work displays numerous implications in clinical, educational and research contexts, and offers a promising platform upon which to base future work. In demonstrating the positive impact of TEI on psychological well-being of children, this research confirmed previous evidence that has identified TEI as a crucial resource for adjustment (e.g., Mavroveli et al., 2007; Piqueras et al., 2019). However, since cross-sectional studies preclude the possibility to make inferences regarding causation, future research should move from investigation of predictive associations to examine instead causal relationships between the variables of interest, and test more complex models in which specific interactions between variables can emerge.

The promising results in improving children's emotional skills through a targeted training corroborated previous evidence that highlighted the importance of actualizing promotive and preventive

intervention programmes from early stages of development (see review by Cheney et al., 2014; Puertas-Molero et al., 2020). EI intervention programmes can be directed either to help all children in increasing the knowledge of their emotional world and in developing resources to deal with emotional challenges, or to furnish valuable support to those children who are especially at risk for the onset of emotional problems, due to family, environmental or social difficulties. Schools can provide ideal settings for the implementation of such programmes, as it is given to a wide range of young people the opportunity to acquire and strengthen skills related to the emotional domain, such as the emotion understanding and basic strategies of emotion regulation (Muñoz-Oliver et al., 2022). The current research established the effectiveness of an EI training in enhancing some EI skills but not TEI, psychological well-being, emotional self-efficacy nor the usage of adaptive coping strategies. Future studies should examine the training features that can determine a change also in the other variables, and should provide a refinement of teaching, activities and materials of the training in line with targeted outcomes. Important implications for research also concern the assessment of the variables reflecting psychological functioning in children, i.e., EI and coping. EI has received little attention directed to the implementation of suitable age-appropriate measures of AEI. For this reason, a performance test of AEI was created to evaluate the emotional knowledge and abilities in accordance with those targeted in the EI intervention programme here described. For this test, further implementation (e.g., enlargement to other emotional abilities) and revision (e.g., improvement of some items) should be required in the perspective of its possible usage in future projects. As regards coping, a situational measure targeted to assess the strategies employed by the children in specific stressful circumstances was developed, although its validation through a normative sample was not possible due to the emergency of the pandemic Covid-19. Further refinements and examination of psychometric properties are needed to make the tool usable, with the ultimate purpose to possibly enrich the existing coping literature with a new reliable instrument which allows for an in-depth investigation both for the

mechanisms underlying the coping process in childhood and for the potential role of coping in explaining the relationship between EI and adjustment outcomes.

5.4. Conclusions

This PhD project contributes to the understanding of the relevant variables that can require particular attention for the promotion of an optimal psychological adjustment in childhood, and, most of all, highlights the importance of fostering EI skills through school-based intervention programmes. In particular, the crucial role of EI in determining children's psychological well-being was detected, and a brief and non-intensive EI intervention programme was found to be effective in increasing preadolescents' emotional knowledge and some basic EI skills, although was not as effective in improving other variables associated to well-being, which may require more time and efforts to be implemented. Despite other studies previously depicted EI as a significant personal resource for youth adjustment that can be implemented through school-based targeted trainings (e.g., Domitrovich et al., 2017; Piqueras et al., 2019; Puertas-Molero et al., 2020), this research was the first to explore the simultaneous contribution of a wide set of variables to children's mental well-being. Also, in the Italian context, it was the first to employ a rigorous experimental design for the development and evaluation of a school-based EI intervention programme, aimed to promote aspects related to psychological well-being in children. In addition, this dissertation offers a contribution to the advancement of knowledge on the coping process in young people, by illustrating the development of a new tool targeted at exploring different strategies of coping adopted by the children in dealing with specific stressors. Unfortunately, the pandemic Covid-19 prevented the collection of data and the further implementation of the instrument, which will be the main goal of future work. To conclude, this project draws attention toward the importance of improving psychological well-being and related variables in youth, in line with promotion perspectives that emphasize the need to foster positive mental health from early stages of development, given that childhood and adolescence are decisive periods for laying the foundations for positive development and psychological adjustment (Barry et al., 2013). Through the

implementation of school-based intervention programmes aimed at enhancing well-being, it is feasible to equip youngsters with a series of life skills and resources that can fulfil their potential and help them to overcome adversities, thus protecting them against the risk of emergent psychological and emotional disorders. Through the development of novel tools that can offer new perspectives on the measurement of variables linked to psychological functioning, it is possible to enrich clinical and research practice with instruments that can provide a more-in-depth examination of the processes related to well-being for young people. These results might guide future research in implementing and sustaining actions for the promotion of positive mental health in youth.

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Appendix I

Study 2: Non-significant statistical analyses

For the measures of TEI, CIT, CCSC-pr, CCSC-av, CCSC-sup, RESE-n and RESE-p, the ANOVA showed no statistically significant results, confirmed by BF10 and planned comparisons (Table S1). Instead, significant main effects of the Time factor were detected for the Avoidance (CCSC_av) and Support-seeking (CCSC_sup) coping styles, which decreased at T1 in both groups (see Figure S1 and Figure S2). These effects, however, received inconclusive support from the BF10.

Table S1. Results of the statistical analyses on measures not revealing significant effects

Variable	Factors	Statistics*(df)*	*E.S.*	BF_{10}	Support
TEI	Time	*F(1,66)=.341*	.01	.22	H0
	Training	*F(1,66)=.012*	.00	.41	--
	Time x Training	*F(1,66)=.004*	.00	.25	H0
	EI-t: T0 vs T1	*t(66)=-.459*	.09	.21	H0
	C-t: T0 vs T1	*t(66)=-.366*	.06	.19	H0
	T1: EI-t vs C-t	*t(66)=.113*	.03	.25	H0
CIT	Time	*F(1,66)=.973*	.01	.29	H0
	Training	*F(1,66)=2.058*	.03	.74	--
	Time x Training	*F(1,66)=.031*	.00	.25	H0
	EI-t: T0 vs T1	*t(66)=-.823*	.14	.25	H0
	C-t: T0 vs T1	*t(66)=-.572*	.10	.21	H0
	T1: EI-t vs C-t	*t(66)=-1.204*	.29	.46	--
CCSC-pr	Time	*F(1,66)=.049*	.00	.19	H0
	Training	*F(1,66)=2.757*	.04	.75	--

	Time x Training	*F(1,66)=.224*	.00	.28	H0
	EI-t: T0 vs T1	*t(66)=-.179*	.03	.19	H0
	C-t: T0 vs T1	*t(66)=.491*	.08	.20	H0
	T1: EI-t vs C-t	*t(66)=-1.099*	.27	.42	--
CCSC-av	Time	*F(1,66)=6,094**	.08	2.72	--
	Training	*F(1,66)=1.421*	.02	.50	--
	Time x Training	*F(1,66)=0.100*	.00	.26	H0
	EI-t: T0 vs T1	*t(66)=1.969*	.33	.91	--
	C-t: T0 vs T1	*t(66)=1.522*	.27	.57	--
	T1: EI-t vs C-t	*t(66)=-1.098*	.27	.42	--
CCSC-sup	Time	*F(1,66)=4.954**	.07	1.66	--
	Training	*F(1,66)=.525*	.01	.35	--
	Time x Training	*F(1,66)=.469*	.01	.31	H0
	EI-t: T0 vs T1	*t(66)=1.090*	.20	.35	--
	C-t: T0 vs T1	*t(66)=2.058**	.33	.94	--
	T1: EI-t vs C-t	*t(66)=.925*	.22	.36	--
RESE-n	Time	*F(1,66)=.322*	.00	.20	H0
	Training	*F(1,66)=.975*	.01	.46	--
	Time x Training	*F(1,66)=1.397*	.02	.44	--
	EI-t: T0 vs T1	*t(66)=-1.237*	.23	.43	--
	C-t: T0 vs T1	*t(66)=0.435*	.07	.20	H0
	T1: EI-t vs C-t	*t(66)=-.282*	.07	.26	H0
RESE-p	Time	*F(1,66)=1.112*	.02	.30	H0

Training	*F(1,66)=.036*	.00	.28	H0
Time x Training	*F(1,66)=.650*	.01	.30	H0
EI-t: T0 vs T1	*t(66)=-.175*	.03	.19	H0
C-t: T0 vs T1	*t(66)=-1.316*	.24	.44	--
T1: EI-t vs C-t	*t(66)=-.588*	.14	.29	H0

In the column "Factors", for each factor ANOVA effects have been reported, followed by planned comparison analyses. Note: EI-t: Emotional Intelligence training group; C-t: Control training group; df=degrees of freedom; E.S.=effect size, partial eta squared for the ANOVAs and Cohen's d for the t-tests; BF10=Inclusion Bayes Factor. TEI=Trait Emotional Intelligence; CIT=Comprehensive Inventory of Thriving; CCSC-pr: Children's Coping Strategies Checklist, Positive Cognitive Restructuring; CCSC-av: Avoidance; CCSC-sup: Support seeking; RESE-n: Regulatory Emotional Self-efficacy, Regulating negative emotions; RESE-p: Expressing positive emotions; *p ≤0.05; **p ≤0.01; ***p ≤ 0.001.

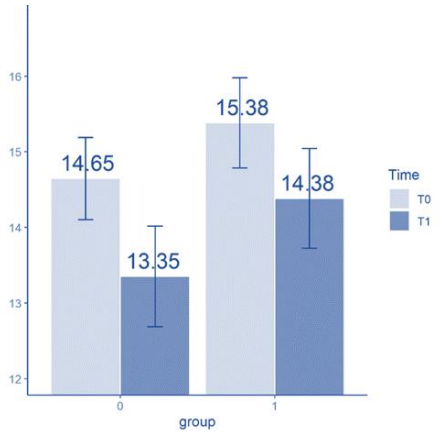

Figure S1. Avoidance (CCSC-av)

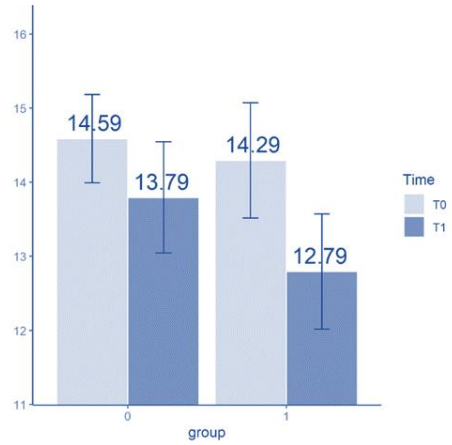

Figure S2. Support-seeking (CCSC-sup)

Appendix II

Study 2: Cross-lagged Panel Model (CLPM)

Table S2. Standardized coefficients for the Cross-lagged Panel Models

EI-t (n=31)			Autoregressive paths		Cross-lagged paths			
X	Y	T0 r_{xy}	A	B	C	D	R2	R2
			Y0 -> Y1	X0 -> X1	X0 ->Y1	Y0 ->X1	X1	Y1
PANAS_n	AEIT	-.447	.808***	.816***	-.074	.175	.569	.712
	AEIT-lex	-.355	.649***	.760***	-.341***	.062	.548	.700
	AEIT-und	-.342	.820***	.814***	.260	.214	.584	.589
CCSC_dis	AEIT	-.115	.828***	.490**	-.110	-.047	.248	.720
	AEIT-lex	-.128	.748***	.464**	-.202	-.243	.304	.640
	AEIT-und	-.049	.731***	.507***	.058	.216	.292	.533
C-t (n=31)								
X	Y	T0 r_{xy}	A	B	C	D	R2	R2
			Y0 -> Y1	X0 -> X1	X0 ->Y1	Y0 ->X1	X1	Y1
PANAS_n	AEIT	.055	.359*	.478**	.154	.047	.234	.159
	AEIT-lex	.185	.519***	.453**	.075	.144	.251	.290
	AEIT-und	-.126	.334	.470**	.147	-.088	.239	.120
CCSC_dis	AEIT	-.377*	.336*	.578***	-.082	-.170	.440	.141
	AEIT-lex	-.396**	.517**	.665***	-.041	.051	.418	.286
	AEIT-und	-.093	.311	.620***	-.035	-.249	.477	.100

Note: EI-t: Emotional Intelligence training group; C-t: Control training group. AEIT: Ability Emotional Intelligence Test, Total score; AEIT-lex: Emotional lexicon; AEIT-und: Understanding emotions; CCSC-dis: Children's Coping Strategies Checklist, Distraction; PANAS-n: Positive and Negative Affect Scale, Negative affect. P-values are based on bootstrap (R = 1000) estimate of standard error, *p ≤0.05; **p ≤0.01; ***p ≤ 0.001.

Appendix III

Study 2: Table of the training activities

1. Experimental condition

EI ability	Description of activity	Type of activity
Emotion perception and understanding	- Introduction to the topic - Presentation of the meaning of some emotional terms (primary and secondary emotions)	Brainstorming Group discussion Reading
Emotion perception	- Recognition and labelling emotions experienced by characters of short stories	Storytelling Group game
Emotion perception	- Identification of emotions from people's facial expressions, gestures, posture - Reflection and discussion about the different ways of emotion expression	Group discussion Paperwork Game on emotion expression
Emotion perception and understanding	- Identification of the emotions experienced by characters of short movies at the beginning and at the end of the story - Stimulation of thoughts on the association between emotions and occurring events (why the character is experiencing that particular emotion) - Stimulation of thoughts on the emotional experience (how and why the emotions change at the end of the movie)	Watching videos promoting reflections on emotions Writing thoughts Group discussion
Emotion understanding	- Stimulation of thoughts about the intensity of emotional experiences	Completion of a worksheet Group games

Emotion regulation	- Identifying oneself in critical situations eliciting specific emotions	Role playing in emotional artificial scenarios Storytelling
Emotion regulation	- Stimulation of thoughts about the personal strategies of emotion regulation - Sharing one's own emotion regulation strategies	Group discussion Writing thoughts Creation of the "Emotion Regulation jar" (by cooperative work)
Emotion regulation	- Identifying one's own strength points and resources to deal with stressors	Writing thoughts Creation of the "Emotion Regulation kit" (personal worksheet with relevant materials of the training)

2. Control condition

Pro-environmental attitude/behaviour	**Description of activity**	**Type of activity**
Perception and understanding of environmental problems	- Introduction to the topic - Presentation of some relevant environmental problems	Brainstorming Group discussion Reading
Perception of environmental problems	- Recognition and labelling environmental problems mentioned in short stories	Storytelling Group game
Perception of environmental problems	- Identification of different environmental problems in a series of pictures - Reflection and discussion about the salience of environmental problems in different areas of the world	Group discussion Paperwork Game on environmental awareness
Perception and understanding of environmental problems	- Identification of issues connected to environmental exploitation/disruption displayed	Watching video promoting the reflection on environmental problems Writing thoughts

	in short movies (appropriateness of the character's behaviour) - Stimulation of thoughts on the association between individuals' attitudes and behaviours and consequences for the environment	Group discussion
Understanding of environmental problems	- Stimulation of thoughts about the severity of the environmental damages, with particular emphasis on pollution and climate change	Completion of a worksheet Group games
Regulation of environmental attitudes/behaviours	- Identifying oneself in critical situations in which specific behaviours have an impact on the environment wellness	Role playing in artificial scenarios Storytelling
Regulation of environmental attitudes/behaviours	- Stimulation of thoughts about the personal behaviours that can be environmental-friendly (e.g., recycling, water-saving …) - Sharing one's own behaviours and identifying new positive behaviours	Group discussion Writing thoughts Creation of the "Environmental-friendly jar" (by cooperative work)
Regulation of environmental attitudes/behaviours	- Stimulation of thoughts about the conscious consumer behaviours (e.g., reuse items, no wasting food …)	Writing thoughts Creation of the "Environmental-friendly shopping bag" (personal worksheet with relevant materials of the training)

Appendix IV

Study 2: The Ability Emotional Intelligence Test (AEIT) (English version)

Below you will be asked some questions that you can answer freely. Remember that there are no right or wrong answers, but it is important to answer honestly.

1. **What do you think an emotion is? If you wish, you can also respond with examples.**

_____
_____
_____

2. **For each of the following emotions try to determine a definition. You can also write some examples of situations in which you might have felt that particular emotion.**

SADNESS:_____
_____

HAPPINESS:_____
_____

ANGER:_____
_____

HATE:_____
_____

FEAR:_____
_____

ACCEPTANCE:_____
_____

GRATITUDE:_____
_____

FRUSTRATION:_____
_____

COMPASSION:_____
_____

INSECURITY:_____
_____

3. **Describe how you would feel if you found yourself in the following situations.**

A friend of yours mistakenly breaks your favorite game. In the hope of being forgiven, he gives you one of his games. How do you feel?

_____

_____

You participate in a competition, for which you have been preparing for a long time. One of your teammates, whom you are fond of, finishes in first place, whilst you finish in fourth place. How do you feel?

_____

_____

You forgot your snack at home today. Your new classmate, with whom you would like to make friends, offers you half of his snack, you accept but at the first bite you discover that you do not like it. How do you feel?

_____

_____

You could not go to your favorite singer's concert and your cousin gets an autograph dedicated to you. How do you feel?

_____

_____

You are about to take the stage to play the lead in the end-of-the-year school play. How do you feel?

_____

_____

Without realizing it, you reveal a secret that a friend of yours has told you. He gets angry and, out of spite, he does not invite you to his birthday. How do you feel?

_____

_____

The Ability Emotional Intelligence Test (AEIT) (Italian Version)

Di seguito ti verranno poste alcune domande alle quali potrai rispondere liberamente. Ricorda che non ci sono risposte giuste o sbagliate, ma è importante rispondere con sincerità.

1. **Che cos'è secondo te un'emozione? Se lo desideri, puoi rispondere anche tramite degli esempi.**

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2. **Per ognuna delle seguenti emozioni prova a dare una definizione. Puoi anche scrivere degli esempi di situazioni in cui si può provare quella particolare emozione**.

TRISTEZZA:_____
_____

GIOIA:_____
_____

RABBIA:_____
_____

DISGUSTO:_____
_____

PAURA:_____
_____

ACCETTAZIONE:_____
_____

GRATITUDINE:_____
_____

FRUSTRAZIONE:_____
_____

COMPASSIONE:_____
_____

INSICUREZZA:_____
_____

3. **Descrivi quello che proveresti se ti trovassi nelle seguenti situazioni**.

Un tuo amico, inavvertitamente, rompe il tuo gioco preferito. Per farsi perdonare, ti regala uno dei suoi giochi. Cosa provi?

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Partecipi ad una gara, per la quale ti sei preparato a lungo. Un tuo compagno di squadra, al quale sei affezionato, arriva primo, mentre tu ti classifichi quarto. Cosa provi?

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Oggi hai dimenticato la merenda a casa. Un tuo nuovo compagno di classe, con cui vorresti fare amicizia, ti offre metà della sua merenda, tu accetti ma al primo morso scopri che non ti piace. Cosa provi?

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Al concerto del tuo cantante preferito, al quale non sei potuto andare, tuo cugino ottiene un autografo dedicato a te. Cosa provi?

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Stai per salire sul palco per interpretare la parte principale alla recita scolastica di fine anno. Cosa provi?

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Riveli inavvertitamente un segreto che un tuo amico ti ha confidato. Lui si arrabbia e, per dispetto, non ti invita al suo compleanno. Cosa provi?

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Appendix V

A New Coping Questionnaire for Children (English version)

Below you can find a list of difficult situations that you may have experienced. Please indicate how often you have done each of these things. If you have never been in such a situation, try to imagine how frequently you would do the things we have suggested. Please note that there is no right or wrong answer, only the answer you believe is best for you.

You can choose among:

① Never ② Occasionally ③ Frequently ④ Always

1. The teacher wants to move you from your desk because you and your favourite classmate talk too much during the lessons. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Talk to someone who can understand your point of view	①	②	③	④
• Do not believe that to be true	①	②	③	④
• Pay more attention to the lesson, hoping that the teacher will change her/his mind	①	②	③	④
• Start flipping through a book to distract yourself	①	②	③	④
• Think having a new desk mate may be amusing	①	②	③	④
2. One of your relatives, whom you love very much, is in hospital because he/she is ill. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Do not believe that he/she is so ill	①	②	③	④
• Ask someone to explain better to you regarding how he/she is	①	②	③	④
• Think about what you could do, to make him/her feel better	①	②	③	④
• Believe he/she will recover soon as the doctors are good	①	②	③	④

• Play or do some sport to take your mind off it	①	②	③	④
3. A child in the group is making fun of you. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Ask an adult who is with you to help you	①	②	③	④
• Try to understand why he/she is angry with you	①	②	③	④
• Play with another child in the group	①	②	③	④
• Understand that it is bad to be teased and therefore you do not do the same to others	①	②	③	④
• Distance yourself from the group	①	②	③	④
4. You have been training for a competition organized at school for a long time, but you finish last. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Decide that you will not participate in other races	①	②	③	④
• Look for another hobby to take your mind off it	①	②	③	④
• Tell someone how you feel about it	①	②	③	④
• Think that the important thing is to have participated in the race	①	②	③	④
• Decide to train more for the next race	①	②	③	④
5. During the math test you realize that an exercise is very difficult. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Focus on the exercise by trying to do your best	①	②	③	④
• Make no effort to complete the exercise	①	②	③	④
• Think that if you do the other exercises well you will get a good mark	①	②	③	④
• Do something else to distract yourself from the exercise	①	②	③	④
• Ask for help from the teacher	①	②	③	④
6. While playing at home, you accidentally break a valuable item. You:	**Never**	**Occasionally**	**Frequently**	**Always**

• Think you will be forgiven because you did not do it on purpose	①	②	③	④
• Find a way of repairing the object	①	②	③	④
• Hide the object and ignore what has happened	①	②	③	④
• Ask someone what you should do about the situation	①	②	③	④
• Watch some television to distract yourself from the problem	①	②	③	④
7. Your doctor tells you that if you continue to eat your favourite food, you will feel unwell. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Ask your family what food you can replace it with	①	②	③	④
• Think that there are many other types of food that you enjoy	①	②	③	④
• Go to the park to distract yourself	①	②	③	④
• Accept not to eat it again as instructed by your doctor	①	②	③	④
• Do not think it is your favourite food that makes you sick	①	②	③	④
8. You find out that a very close friend of yours is moving to another city. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Break off the friendship with him/her	①	②	③	④
• Try to find a way of keeping in touch with him/her	①	②	③	④
• Play something to distract yourself	①	②	③	④
• Do not believe that your relationship will end because of this distance	①	②	③	④
• Tell him/her how you feel about this	①	②	③	④
9. Until you finish your homework, you cannot go to play with a friend of yours. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Decide you can play with him/her tomorrow instead	①	②	③	④

• Give up on the idea of playing with him/her	①	②	③	④
• Do something else to distract yourself	①	②	③	④
• Complain about it to someone else	①	②	③	④
• Focus on your tasks to finish them as soon as possible	①	②	③	④
10. A classmate breaks a favorite game of yours that you left on the desk. You:	**Never**	**Occasionally**	**Frequently**	**Always**
• Pretend your game has not really broken	①	②	③	④
• Ask for help from your teacher or a classmate	①	②	③	④
• Convince yourself that you have many nicer toys	①	②	③	④
• Consider how it could be fixed	①	②	③	④
• Try to enjoy the rest of the break time	①	②	③	④

Nuovo Questionario sul Coping per Bambini (Versione italiana)

Di seguito troverai un elenco di situazioni difficili che potrebbero esserti capitate. Indica quanto spesso hai fatto ciascuna di queste cose.
Se non ti fossi mai trovato in una situazione del genere prova ad immaginare quanto spesso faresti le cose che ti presentiamo.
Tieni presente che non c'è una risposta giusta o sbagliata, ma solo la risposta che tu ritieni migliore per te.

Segna con una X scegliendo tra:

① Mai ② Qualche volta ③ Spesso ④ Sempre

1. La maestra vuole spostarti di banco perché tu e il tuo compagno preferito parlate troppo durante la lezione. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Ne parli con qualcuno che può capirti	①	②	③	④
• Pensi che non sia vero	①	②	③	④
• Stai più attento alla lezione sperando che la maestra cambi idea	①	②	③	④
• Inizi a sfogliare il diario per distrarti	①	②	③	④
• Pensi che avere un nuovo compagno di banco potrebbe essere divertente	①	②	③	④
2. Uno dei tuoi famigliari, a cui vuoi molto bene, sta andando all'ospedale perché si sente male. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Non pensi che stia veramente così male	①	②	③	④
• Chiedi a qualcuno di spiegarti meglio come sta	①	②	③	④
• Pensi a cosa potresti fare per far star meglio il tuo famigliare	①	②	③	④
• Credi che si riprenderà presto perché i medici sono bravi	①	②	③	④
• Giochi o fai un po' di sport per non pensarci	①	②	③	④

3. Un bambino del gruppo ti sta prendendo in giro. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Lo dici all'adulto che è con voi perché ti aiuti	①	②	③	④
• Cerchi di capire perché ce l'ha con te	①	②	③	④
• Ti metti a giocare con un altro bambino del gruppo	①	②	③	④
• Capisci che è brutto essere presi in giro e quindi tu non lo farai ad altri	①	②	③	④
• Ti allontani dal gruppo	①	②	③	④
4. Ti sei allenato/a a lungo per una gara organizzata a scuola ma ti classifichi ultimo. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Decidi che non parteciperai più ad altre gare	①	②	③	④
• Cerchi un passatempo per non pensarci	①	②	③	④
• Dici a qualcuno quello che provi	①	②	③	④
• Pensi che l'importante sia aver partecipato alla gara	①	②	③	④
• Decidi di allenarti di più per la prossima gara	①	②	③	④
5. Durante la verifica di matematica ti accorgi che un esercizio è molto difficile. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Ti concentri sull'esercizio cercando di fare del tuo meglio	①	②	③	④
• Non provi neanche a svolgerlo	①	②	③	④
• Credi che se farai bene gli altri esercizi prenderai comunque un bel voto	①	②	③	④
• Fai qualcosa per distarti dall'esercizio	①	②	③	④
• Chiedi aiuto all'insegnante	①	②	③	④
6. Mentre stai giocando in casa rompi, senza volerlo, un oggetto molto prezioso. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**

• Pensi che verrai perdonato/a perché non l'hai fatto apposta	①	②	③	④
• Cerchi un modo per riparare l'oggetto	①	②	③	④
• Nascondi l'oggetto e fai finta di nulla	①	②	③	④
• Chiedi a qualcuno cosa potresti fare	①	②	③	④
• Ti metti a guardare la TV per non pensarci	①	②	③	④
7. Il medico ti dice che se mangerai ancora il tuo cibo preferito continuerai a stare male. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Chiedi ai tuoi famigliari con quali cibi puoi sostituirlo	①	②	③	④
• Pensi che ci sono tanti altri cibi che ti piacciono	①	②	③	④
• Vai al parco per distrarti	①	②	③	④
• Ti impegni a non mangiarlo più come ti ha detto il medico	①	②	③	④
• Non credi che sia il tuo cibo preferito a farti stare male	①	②	③	④
8. Vieni a sapere che un tuo caro amico (o amica) andrà a vivere in un'altra città. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Rinunci alla vostra amicizia	①	②	③	④
• Cerchi di trovare un modo per continuare a sentirlo/a	①	②	③	④
• Ti metti a giocare per non pensarci	①	②	③	④
• Credi che la vostra amicizia non finirà per questo	①	②	③	④
• Gli/le dici come ti senti	①	②	③	④
9. Fino a che non avrai finito i compiti, non potrai andare a giocare con un tuo amico (o amica). Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Pensi che potrai giocare con lui/lei anche domani	①	②	③	④
• Abbandoni l'idea di giocare con lui/lei	①	②	③	④
• Fai qualcos'altro per distrarti	①	②	③	④

• Ti lamenti con qualcuno	①	②	③	④
• Ti concentri sui compiti per finirli velocemente	①	②	③	④
10. Un compagno di classe rompe un tuo gioco preferito che avevi lasciato sul banco. Tu:	**Mai**	**Qualche volta**	**Spesso**	**Sempre**
• Fai finta che il tuo gioco non si sia veramente rotto	①	②	③	④
• Chiedi aiuto all'insegnante o a un compagno (o compagna)	①	②	③	④
• Pensi che in fondo hai tanti altri bei giochi	①	②	③	④
• Pensi a come si potrebbe aggiustare	①	②	③	④
• Provi a goderti il resto della ricreazione	①	②	③	④