Psychology Research, January 2017, Vol. 7, No. 1, 1-19
doi:10.17265/2159-5542/2017.01.001

Youth Emotional Intelligence as Related to Adaptive Coping with Stress Encounters

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The current research aimed to examine the nexus of relationships between emotional intelligence (EI) and adaptive coping with stressful encounters among adolescents. More specifically, the study assesses the extent to which EI uniquely facilitates adaptive coping, beyond the effects of general intelligence and personality dimensions. The research is based on Mayer and Salovey's (1997) definition of EI as a hierarchically organized constellation of four emotional abilities that leads to emotional growth and enables individuals to cope adaptively with stress encounters, thus improving their sense of well-being. Accordingly, we hypothesized that adolescents with high EI cope more effectively in stressful situations than those with low EI, reaching more adaptive outcomes and thus a greater sense of well-being. We also examined the mediating role of social support in the relationship between EI and adaptive coping. The sample included 203 adolescents, aged 16-17 (41.9% boys, 58.1% girls), and their homeroom teachers completed questionnaires regarding the examined variables. Overall, the results corroborated our hypothesis: High EI and positive adaptive outcomes were highly correlated. EI and problem-focused or emotion-focused coping were not correlated, but EI was negatively correlated with avoidant coping strategies that entail non-adaptive behaviors. Modest positive correlations were found between EI and scholastic performance. Furthermore, an assessment of the hypothesized model using structural equation modeling (SEM) showed social support mediates the nexus of relationships between EI and adaptive outcomes. Students' evaluations of their homeroom teachers supplemented the assessment of the research model. The findings indicate that in times of stress, adolescents with high EI rely on their higher emotional abilities to build a social network that supplies them with significant social resources to minimize the negative impact of stress, help them achieve positive adaptive outcomes, and protect them from using non-adaptive coping strategies. Implications of the findings for adolescents' education are discussed.

Keywords: emotional intelligence, youth, adaptive coping, stress encounters

Introduction

Emotional Intelligence (EI) and Adaptive Coping in Stressful Situations among Adolescents

Emotion, cognition, and emotional intelligence. Over the last several decades, research has emphasized the functional role of emotions in psychological as well as cognitive processes, in contrast to past psychological, philosophical research, which has perceived intellect as the vehicle of exact science, and emotions as inhibiting and disturbing the process of pure thought (Salovey, Bedell, Detweiler, & Mayer, 2000). Research has also viewed emotions not as disrupting cognitive ability, but as enhancing it, and as one of the primary sources of motivation, arousing and guiding human action. Emotion and thought may be seen as two sides of the same

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coin (Murphy & Zajonc, 1993; Salovey et al., 2000). Internal emotional experiences provide individuals with information about their surroundings and their environmentally bound situation, shaping their judgment, decisions, preferences, and actions (Schwartz, 1990).

The term "emotional intelligence" (EI) expresses the mutuality of the relationship between emotion and reason, and exists at the intersection of emotion and cognition. EI is perceived as acting on emotional information that relates to the meaning of emotions, their patterns and sequences, and reflects assessments of situations and relationships (Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2000, 2004). The term began to take root in the psychological literature in the 1990s, receiving theoretical and practical attention today (Bar-On, 1997; Goleman, 1995; Mayer et al., 2000). Bar-On (1997) coined the term "emotional quotient" (EQ) as analogous to IQ, and suggested an index of its measurement, which included intrapersonal, interpersonal, and adaptive components, as well as components relating to coping with stress and mood. Goleman (1995) presented a model of EI that included five components: recognition of one's own emotions, managing one's own emotions, motivation, identifying others' emotions, and managing relationships with others.

Salovey and Mayer's model of EI, which has received considerable scientific attention and is the basis of the present research, views EI as the nexus of mental abilities that acts on emotions and emotional knowledge and expresses the relationship between cognition and emotion. Its significance lies in the individuals' ability to identify, perceive, and express emotions, to understand and use them, and to manage and treat them such that they will advance one's personal growth and sense of well-being (Salovey et al., 2000).

The real value of the conceptualization of EI and its measurement lies in its perception as having four branches, arranged from the lowest level (which includes basic processes, e.g., identifying and expressing emotions) up to the highest level (which includes complex processes, e.g., emotional regulation). The first branch is defined as the "ability to perceive and identify emotion" in oneself and others, and includes registering, drawing attention to, and deciphering emotional messages, which are expressed in facial expressions, vocal tone, and social customs. The second branch, "emotional facilitation of thinking", includes the assimilation of emotion in thought and the use of emotions for thought, as well as the influence of emotion on cognition, which enables problem-solving, decision-making, and creative thought. The third branch, "emotional understanding", reflects the ability to analyze emotions, to assess changes in them, and to understand their outcomes; this basic ability grows with the development of language and thought and is related to the ability to label emotions, to identify relationships between components of the emotional lexicon, and to reach conclusions on the basis of this emotional knowledge. The fourth branch, "emotional regulation and management", includes the person's understanding of emotional progressions in his relationships with others, his ability to contain emotional transitions in these relationships, and to adapt emotional responses to different situations. Restraining negative emotions and increasing positive ones enables one to cope with changing moods. At the core of the ability to regulate emotions is emotional knowledge, which is based on the understanding of emotions. Emotional self-reflection provides the individual with knowledge about the connections and the reasons for his emotional experiences, enabling him to regulate emotions effectively, and strengthening his sense of personal well-being (Mayer et al., 2004).

Individuals with high EI have a strong sense of self-efficacy in regulating their emotions, and believe they have the resources to employ the necessary strategies for improving the negative mood that accompanies stressful situations. Thus, they are successful in changing their attentional focus toward coping and minimizing the potentially damaging influence of stressful situations. The keen discernment of emotions and the ability to

regulate them are central components of EI and are essential to coping adaptively with stressful situations.

EI is thus the ability to "bear" an emotional load effectively and to use this ability to guide cognitive actions and propose other ways to be intelligent than those that emphasize IQ. EI is likely to predict effective coping with stressful encounters in interpersonal relations in the family, at work, and in school functions (Goleman, Boyatzis, & McKee, 2002; Salovey et al., 2002; Hen & Sharaabi-Nov, 2014).

Coping with stress is inherent to EI. To promote the implementation of EI when coping with stressful situations, Salovey, Bedell, Detweiler, and Mayer (1999) suggest a three-level scale of emotional coping, assessing the emotional abilities relevant to coping, differentiated by their level of "sophistication" (see Figure 1).

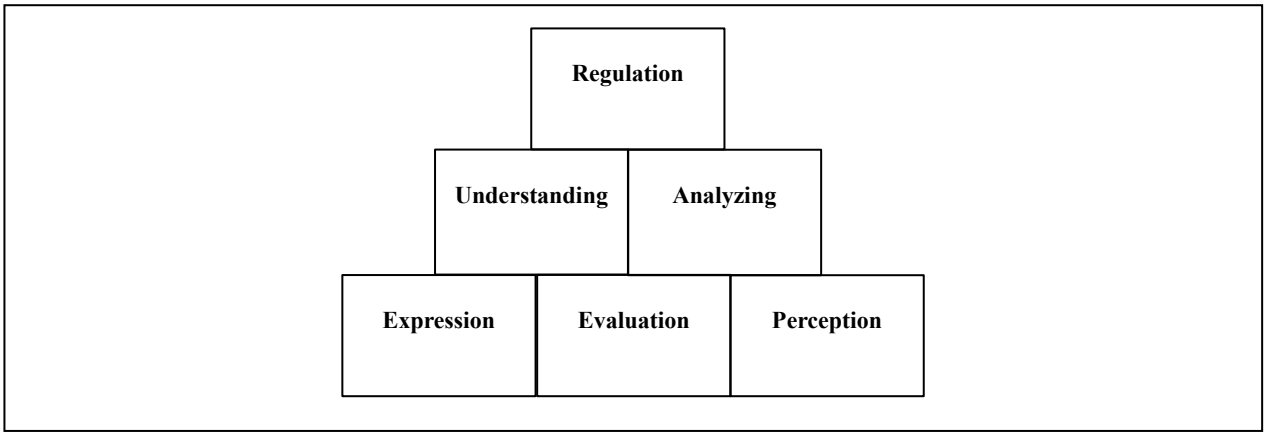

Figure 1. The emotional coping hierarchy.

For an individual to cope effectively, the hierarchy of emotional skills should be fully developed. The way people identify, understand, regulate, and "correct" their emotions greatly determines their coping behaviors and the extent to which the coping outcomes are adaptive (Salovey et al., 2000).

Stress, emotion, and coping. According to the transactional model (Lazarus & Folkman, 1984), stress derives from an interaction between the person and his environment. Stressful situations present a subjective imbalance between the demands on the individual and his resources available to respond to them. Coping with such situations is perceived as a process of managing external and internal demands that one evaluates as burdensome or threatening. Stress, emotion, and coping embody one conceptual unit, where emotion, as the overarching concept, includes stress, and coping includes attempts to manage, control, or regulate stress. Every emotional arousal is accompanied by a certain appraisal, immediate and automatic, of the situation, which provides the cognitive basis—appraisals and perceptions—for the appearance of emotion, that determines the level of stress that is experienced. Appraisals, emotions, and patterns of coping are in constant, dynamic interaction and interchange.

Adaptive coping protects the individual by eliminating or reshaping the conditions that produce stress or by maintaining emotional outcomes within manageable, controllable boundaries. Coping is perceived as an active, complex, multivariable process that incorporates personality factors with previous experience managing stress, and influences outcomes no less than the frequency or severity of the stress-inducing factor. Therefore, managing the aversive emotions and cognitions that are aroused in stressful situations is critical to effective coping.

The effectiveness of coping is assessed according to a variety of criteria and depends on the circumstances, content, and situation. The effectiveness in dealing with the emotions that are aroused by stress (such as anger,

guilt, jealousy), and the effects of these feelings post-coping (such as pride, happiness, or anger and dejection/despondency) make a meaningful contribution to the construction of a sense of personal well-being (Lazarus, 1999; Zeidner & Saklofske, 1996). The process of coping entails cognitive appraisals, identifying potential coping strategies, and carrying them out.

In "coping strategies", the individual takes action to treat the source of the stress or accompanying emotions, with the aim of weakening the stress-inducing conditions and coping with the taxing internal and external demands, by reducing the disparity between his external situation and his desires, and lessening the threat that arises from this disparity. Lazarus and Folkman (1984) present a classification of three coping strategies that serves as the basis for studies that deal with coping with stress: (1) Problem- or task-focused coping strategies aim to solve the problem and change the external reality, with the goal of influencing the source of stress and thus reducing tension; (2) Emotion-focused strategies aim to channel the feelings of stress and to re-conceptualize the problem so as to ease emotional tension; and (3) Avoidance—the attempt to reduce tension by distancing oneself from the problem. Lazarus and Lazarus (2001) see avoidance as a sub-component of emotion-focused coping. Carver, Scheier, and Weintraub (1989) expanded this structure, and many studies, in addition to the present one, have applied it. Factor-analysis studies (Carver, Scheier, & Pozo, 1992) suggest a cluster of adaptive strategies (e.g., active coping, planning, seeking social support, and others) and non-adaptive ones (e.g., denial, behavioral detachment, alcoholism, and others). Salovey et al. (2000) claim that the more varied the repertoire of coping methods, the greater their effectiveness. The ability to cope and adjust depends on the integrated function of emotion and cognition.

The Relationship between EI and Coping with Stressful Encounters

Emotions can advance thought and focus the individual on choosing the behavior that is adaptive for him/her. The arrays of emotional abilities that are expressed in EI enable the person to acquire a basis of knowledge that helps him manage emotional situations. The higher a person's EI, the more effective his coping with stressful situations, and non-adaptive coping is likely to be the result of difficulties processing emotional material—low EI (Matthews & Zeidner, 2000). Adaptive coping enables people to channel their negative emotions in a constructive way by accurately perceiving, understanding, and regulating them, and researchers view such coping as "emotional intelligence in action". Individuals with high EI will create less stressful surroundings for themselves and will try to manage their lives in such a way that they will face fewer frustrating events. EI is a personal state that precedes adaptive coping, which acts through processes whose qualities are still vague, but together they bring about an effective management of emotional challenges (Salovey, Stroud, & Woolery, 2002).

The current study empirically examined the relationship between the structure of EI and coping with stress, and the functioning of the mediating mechanism in this relationship, as suggested in the psychological theoretical literature. Specifically, the relationship between EI and adaptive coping of adolescents with stressful situations were examined, controlling for personality and ability variables.

To examine this relationship, we referred to the transactional model of stress (Lazarus & Folkman, 1984) and to the empirical reports of Wells and Matthews (1994) regarding emotional regulation. This model perceives the stressful situation as a multivariate process that includes "input" (personal and environmental variables), "output" (short- and long-term influences), and "mediating functions" (processes of appraisal and coping that influence the adaptive outcomes) (research model set out in Figure 2).

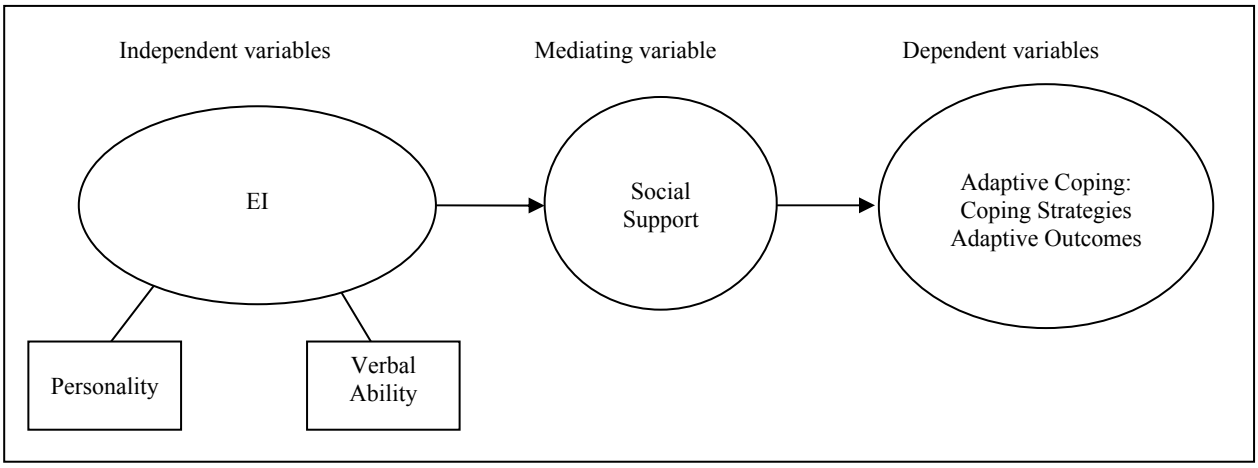

Figure 2. The examined research model: EI, social support, coping and adaptive outcomes in stress encounters.

Mediation of social support. The EI literature theorizes that a number of mechanisms mediate the relationship between EI and coping with stressful situations (Matthews, Zeidner, & Roberts, 2002; Salovey et al., 2000). The present study focused on social support as the mechanism of mediating this relationship, among adolescents. Social support means—the functions provided for the individual by "significant others" (such as family and friends), which can confer him help in understanding and coping with the situation during times of stress (Thoits, 1995). EI equips the individual with social skills necessary for building a strong and supportive social network, which creates an emotional barrier in the face of negative life events. Individuals with high EI will tend to construct and continuously depend on social networks, and in times of stress, even identify the emotional benefit of their use (Salovey et al., 2000). EI has an important and central role in emotional and social adjustment, and a lack of emotional and social capabilities is related to protracted stressful situations during childhood and adolescence (Salovey & Sluyter, 1997).

During adolescence, the importance of the peer group increases (Conger & Peterson, 1984) and thus, it is expected that among adolescents, social support will have the strongest effect among the mediating variables presented in the literature, and will serve as a factor that mediates between EI and adaptive coping with stressful situations (Ciarrochi, Deane, & Anderson, 2002). The rapid processes and changes that take place during adolescence characterize this stage as having high exposure to stressful situations. The background of these frequent stressful situations, the need to separate from parents and to begin to form one's own identity (Erickson, 1968), increases the importance of the peer group—friends with whom to share strong and confusing emotions (Compas et al., 2001; Seiffge-Krenke, 1995). Shulman and Laursen (2002) indicated that close relationships with peers are related to adaptive coping with stress. The structure of coping with stress at this age is complex and multi-dimensional, and effective coping is characterized by flexibility and the ability to change. Exposure to stress and the ability to cope with it are central to the etiology and the prevention of non-adaptive behaviors during adolescence. The relationships between stress inducers and the psychological outcomes of stress are dynamic and mutual. The emotional abilities, as well as behavioral and cognitive ones, serve as risk factors or protective factors, and correspondingly regulate the influence of stress on adolescents (Compas, Champion, & Reesuld, 2005).

The central question examined in the current study is whether and to what extent EI helps adolescents' adaptive coping with stress.

Research Model and Hypotheses

The research model, which guided the hypotheses, comprises three kinds of variables and is presented in Figure 2.

(1) Independent research variables (input variables): EI and its components, as well as the personality and skills variables that served as control variables in this study (and therefore do not appear in the model with arrow signs).

(2) Mediating variable: Social support: In this context, social skills and social coping resources were both examined (the social resource measure assesses the extent to which people feel they belong to social networks that can provide them with support during stress) (Zeidner & Hammer, 1990).

(3) Dependent research variables (output variables): Adaptive outcomes, which were examined by sense of well-being (WB), sense of loneliness, and scholastic functioning. Additional dependent variables included the coping strategies.

It was hypothesized that among adolescents, while coping with stress, EI will lead to the appearance of adaptive outcomes and effective coping strategies, mediated by social support. A comprehensive test of this model is presented.

Hypotheses. The central hypotheses examined were:

H_1: In accordance with the theoretical model of EI (Mayer & Salovey, 1997), we anticipated adolescents with high EI would cope with stressful situations in an effective manner, yielding adaptive outcomes, compared to adolescents with low EI, who will cope ineffectively, yielding less adaptive outcomes. This hypothesis was examined using two methods: examining the relationship between EI and coping strategies, and between EI and adaptive outcomes, as expressed by well-being (Matthews & Zeidner, 2000; Salovey et al., 1999).

Two sub-hypotheses were derived from the central hypothesis:

(1) In a stressful situation in which one can act to change the situation, adolescents with high EI use more problem-focused coping strategies, whereas adolescents with low EI will make greater use of avoidant coping strategies during stress, including coping strategies considered "dysfunctional" (Lazarus & Folkman, 1984).

(2) Adolescents with high EI will report more adaptive outcomes of coping, and thus will report a higher level of sense of well-being (Brackett & Mayer, 2003), compared to adolescents with low EI. In parallel, a negative correlation was expected between high EI and sense of loneliness among adolescents.

H_2: Social support will "mediate" the relationship between EI and adaptive coping, as Salovey and colleagues suggested (Salovey et al., 1999). Thus, it was expected that adolescents with high EI to report greater social support, greater coping resources, and greater social skills, compared to adolescents with low EI.

Method

Participants

Two groups of participants took part in the study: adolescents and their homeroom teachers.

Adolescents. 203 adolescents ages 16-17 (41.9% boys and 48.1% girls) from 4 schools in central and northern Tel Aviv, and of these schools, 14 11th-grade classrooms were randomly drawn. Students completed questionnaires in class as a group. Most of the students belonged to financially secure families (82.4%).

Homeroom teachers. Fourteen homeroom teachers of the classes that were sampled also took part in the study. The teachers contributed an outside perspective regarding scholastic achievement, social and emotional functioning, and emotional regulation.

Measures and Variables

Independent variables. (1) Background data of the students, for example, gender, age, economic status, preferred academic subjects, and self-report on social and scholastic achievement. (2) EI and its four components were measured using a test to assess EI—MSCEIT (Mayer et al., 1999), which presents tasks related to emotion and was adapted for adolescents. The MSCEIT is a performance test that measures how people function on tasks that are related to emotion and how they solve emotional problems. The questionnaire entails eight sections, divided into the four branches that reflect the EI model. Cronach's alphas in the current study are perception and identification of emotion, –0.78, emotional facilitation of thinking, –0.66, emotional understanding, –0.65, and emotional regulation and management, 0.65.

Control variables. (3) Intelligence (verbal ability), a vocabulary sub-test of the Wexler inventory at a level suitable to adolescents (WISC-R-95). The sub-test includes 33 items—words in Hebrew that the participant must define. Cranach's alpha in the current study was –0.86. (4) Personality dimensions were assessed using the OCEANIC personality test (Roberts, 2001). This test examines "the five central factors of personality" (NEO-PI), includes 60 items, and assesses five global dimensions of personality: openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism. The participants are asked to rate the extent to which each item describes them on a 5-point Likert scale (1 = "Never", 5 = "Always").

Cronach's alphas in the current study were openness to experience, –0.80, conscientiousness, –0.87, extroversion, –0.90, agreeableness, –0.88, and neuroticism, –0.89.

Mediating variables. Measures of social support: (5) The Social Support Questionnaire (SSQ) (Sarason, 1983) measures the availability of social support and the level of satisfaction with it. The questionnaire includes 25 items and examines six areas of support: emotional, scholastic, decision-making, relationship with a romantic partner, close friendship, and relationships with peers. Sample items include "When you need to talk, who listens to you?" "With whom can you speak openly and honestly, without being cautious about what you say?" "When you are under stress, who helps you calm down?" Possible responses are "Nobody", "a boy/girlfriend", "a friend", "my father/mother", "my brother/sister", or "a teacher". Cronach's alphas in the current study were emotional, –0.86, scholastic, –0.79, decision-making, –0.67, relationship with a romantic partner, –0.68, close friendship, –0.72, and relationships with peers, –0.72.

(6) **Evaluation of social support.** Interpersonal Support Evaluation (ISEL) (Cohen, Mermelstein, Kamarck, & Hoberman, 1985). The questionnaire assesses the perceived availability of potential sources of social support, includes 40 items. sample items: "There is at least one person that I know whose advice I trust" (true/false); "There is no one I can count on to give me advice on financial matters" (true/false); "There are very few people I can count on to help me solve my problems" (true/false). Cronach's alpha in the current study-e was 0.85.

(7) **Coping resources.** Hammer and Marting (1990) offer an assessment of the individuals' perceived resources for coping with stress. The questionnaire includes 60 items grouped into five sub-scales according to type of coping resource: cognitive resources (e.g., "I actively seek out the positive side of people and situations"), social resources (e.g., "Except for my family, I belong to a group that I care about"), emotional resources (e.g., "I can express my feelings when I am sad"), spiritual resources (e.g., "My values and beliefs help me"), and physiological resources (e.g., "I work out three times a week"). Cronach's alphas in the current study for the four sub-scales were cognitive resources, –0.66, social resources, –0.81, emotional resources, –0.87, spiritual resources, –0.75, and physical resources, –0.61.

(8) **Social skills.** The Social Skills Rating System (SSRS) (Gresham & Elliot, 1990) is self-report questionnaire that assesses social adjustment, social skills, and problematic behaviors (translated to Hebrew and revised by Margalit, 1990). Sample items include "I make friends easily", "I invite friends to join a game", and "I listen to friends when they tell me about their problems". Cronach's alpha in the current study was 0.77.

Dependent measures: Coping strategies. (9) Coping patterns—The COPE Inventory (Carver, Scheier, & Weintraub, 1989). The scale includes 60 items that measure coping patterns by examining how people respond to stressful situations, how they feel and act during stressful events, and the extent to which they use each of the coping methods presented. The adolescents were asked to relate to stressful situations having a social and scholastic nature, that were frequent in their lives. Areas of coping are grouped into 15 sub-scales, divided into three types of coping: "problem-focused coping" (includes the coping strategies of planning, active coping, re-interpretation and growth, and repression of competing activities; e.g., "I tried to build an action plan regarding what I had to do"); "emotion-focused coping" (includes the strategies of searching for social support for emotional reasons, searching for social support for instrumental reasons, and emotional ventilation; e.g., "I tried to get emotional support from friends and/or from my family"); and "avoidant coping" (includes dysfunctional strategies such as behavioral disengagement, mental disengagement (emotions), denial, religion, and use of addictive substances; e.g., "I drank alcohol to think about it less"). Cronach's alphas in the current study for the three subscales were –0.75 for emotion-focused coping, –0.77 for emotion-focused coping, and –0.60 for avoidant coping.

Adaptive outcomes. (10) Subjective well-being was measured using the Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985) (e.g., "My life circumstances are excellent in most respects"). The participants were asked to respond to sentences that describe general judgments regarding their lives, on a 7-point scale (1 = "Completely disagree", 7 = "Strongly agree"). Cronach's alpha in the current study was –0.82.

(11) **Loneliness questionnaire.** The Loneliness Questionnaire (Williams & Asher, 1992) includes 24 items. Cronach's alpha in the current study was –0.92.

(12) **The teachers questionnaire** was developed for the present study to assess the students' functioning in the following areas: scholastic, social, emotional, extent of verbal and physical aggression, and ability to regulate/manage emotions (e.g., "How do you rate the scholastic situation of the student?" "How do you rate the emotional state of the student? (general mood, "Does s/he seem bothered by problems to a particularly high degree?"). The teachers were asked to rate their responses on a 5-point Likert scale ranging (1 = "Extremely low", 5 = "Excellent/extremely high").

The study followed a "prospective research design" and was carried out in two phases. In the first phase, questionnaire data were collected on the input variables: background data, EI and its components, personality variables and intelligence (as control variables), and self-reports by students regarding their scholastic achievements and social situation. To prevent effects from the first phase, data were collected four months later on the mediating variables and on adaptive outcomes. In addition, the teachers fulfilled a questionnaire, addressing to their students' scholastic achievements, social and emotional functioning, and emotional regulation, thus served as an external evaluation factor.

Results

Relationship between EI and Adaptive Coping

To assess the central hypothesis of the study, the relationships between EI and adaptive coping were

examined in the following way: (a) an examination of the relationship between EI and use of coping strategies; and (b) an examination of the relationship between EI and adaptive outcomes.

Table 1 presents the means, standard deviations, and correlations between the central research variables.

Table 1

Matrix of the Main Examined Study Variables: Correlations between EI (Score Includes Four Components), Social Support, Coping Strategies, Coping Resources, Social Skills, a Sense of Loneliness and Well-Being (N = 203)

Loneliness	Social skills	Social coping resources	Avoidance	Emotion-focused coping	Problem-focused coping	Social support (ISEL)	Social support (satisfaction)	Social support (availability)	Emotional regulation & management	Emotional understanding	Emotional facilitationof thought	Emotional perception	EI general	Variable
												---	0.74**	Emotional perception
											---	0.35**	0.65**	Emotional facilitation of thought
										---	0.12	0.29**	0.65**	Emotional understanding
									---	0.44**	0.29**	0.24**	0.67**	Emotional regulation& management
								---	0.25**	0.15*	0.21**	0.15*	0.27**	Social support (availability)
							---	0.35**	0.11	0.16*	-0.01	-0.03	0.08	Social support (satisfaction)
						---	0.40**	0.60**	0.19**	0.22*	0.07	0.03	0.17*	Social Support (ISEL)
					---	0.26**	0.18*	0.23**	0.18**	0.02	0.02	0.04	0.09	Problem-focused coping
				---	0.51**	0.33**	0.20**	0.18*	0.24**	0.15*	0.06	-0.12	0.09	Emotion-focused coping
			---	0.37**	0.08	-0.03	-0.09	-0.15*	-0.25**	-0.17*	-0.25**	-0.24**	-0.34**	Avoidance
		---	0.12	0.36**	0.40**	0.60**	0.36**	0.58**	0.24**	0.09	0.18*	0.05	0.19**	Social coping resources
	---	0.51**	-0.13	0.17*	0.28**	0.38**	0.31**	0.40**	0.26**	0.14*	0.14	0	0.18*	Socialskills
---	-0.35**	-0.56**	0.06	0.23**	-0.24**	-0.67**	-0.36**	-0.53**	-0.08	-0.04	-0.10	-0.05	-0.09	Loneliness
-0.54**	-0.39**	0.59**	-0.34**	0.06	0.29**	0.55**	0.33**	0.45**	0.06	0.07	0.12	0.11	0.14*	Well-being

Note. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

(a) Relationship between EI and coping strategies. As Table 1 shows, significant positive correlations were not found between EI and problem-focused coping or emotion-focused coping. However, EI and the four emotional abilities it comprises were found to be significantly negatively correlated with use of the avoidant coping strategy (which includes strategies that are non-adaptive) such as behavioral disengagement, $r(201) = –0.22$, denial, $r(201) = –0.24$, and use of addictive substances, $r(201) = –0.33$, substances, all $p < 0.01$.

(b) Relationship between high EI and adaptive outcomes. Adaptive outcomes using sense of well-being on two measures (emotional and cognitive), sense of loneliness (social, emotional, and general), and scholastic functioning. As hypothesized, low but significant positive correlations were found between EI and the adaptive measures. As expected, adolescents with high EI scored higher on well-being (high EI: $M = 0.15$, $SD = 0.93$; low EI: $M = –0.17$, $SD = 0.86$; $t = –2.56$, $p < 0.05$) than those with low EI, who scored higher on sense of social loneliness (high EI: $M = 1.80$, $SD = 0.62$; low EI: $M = 2.09$, $SD = 0.64$; $t = –2.39$, $p < 0.05$). Modest correlations were found between EI and self reports of scholastic performance.

The first hypothesis was mostly supported. Significant correlations were found primarily with adaptive outcomes. No correlation was found with problem-focused coping, therefore, the mediating tests were carried out regarding the relationship between EI and adaptive outcomes. On the basis of the correlation findings and the regressions models, it seems that adaptive outcomes are predicted by the mediating variables more so than by EI (as predicted in the second hypothesis).

Mediation of social support in the relationship between EI and adaptive outcomes. The second central hypothesis was that social support mediates the relationship between EI and adaptive outcomes, which is one of the mediating variables suggested in the literature and is particularly relevant to the adolescent population. The functioning of this variable as a mediator of this kind represents the generative mechanism by which an independent variable may influence the dependent variable via the mediating variable (Baron & Kenny, 1986).

With all the conditions meant to serve as the basis for a mediation analysis in place (Baron & Kenny, 1986), it was possible to turn to the analysis itself. The examination of the mediation hypothesis was carried out in the following way: Initially, regressions were analyzed step-wise to assess initial mediation and subsequently the model using structural equation modeling (SEM). Social support and resources appear to fully mediate the relationship between EI and well-being. The greater the social support, as well as social coping resources, the higher the sense of well-being. Note that when EI was entered exclusively into each model, its contribution was significant ($p < 0.05$) but disappeared the mediating variables was entered (social support satisfaction, social support evaluation, coping resources), and the mediating variables influence significantly, also when EI was entered into the model. Thus, in accordance with the hypothesis, these initial mediating analyses empirically show the mediation path:

EI → Social Support → Adaptive Outcomes

Analysis of mediation and the model of social support in the relationship between EI and adaptive outcomes using SEM. Following the finding of initial empirical evidence for the hypothesized mediation path, the second hypothesis was examined by SEM using the AMOS program. This analysis examines all the components of the model in the framework of one model and allows estimating simultaneously a chain of causal influences, direct and indirect, between the variables, making it possible to achieve a more accurate evaluation of the relationships between the different variables (Grapentine, 2000).

Analysis of the conceptual model (Figure 2) is based on three supra-variables, which have sub-groups of variables:

(1) The exogenic variable—general emotional intelligence and its four branches: identification of emotions, emotional facilitation of thinking, emotional understanding, and emotional regulation. Here the personality dimension of agreeableness and the intelligence dimension of verbal ability were also entered as observed covariates.

(2) The mediating variable—social support resources: Satisfaction with social support, evaluation of social support and social coping resources.

(3) The outcome variable—adaptive outcomes with a social-emotional nature: A sense of well-being (in the emotional and cognitive dimensions), the measure of loneliness, and the self-report measure of social adjustment.

The model presented includes the "evaluations by teachers" of the extent of students' adjustment in social and emotional areas and emotional regulation. The following is a graphic description of the model and its findings:

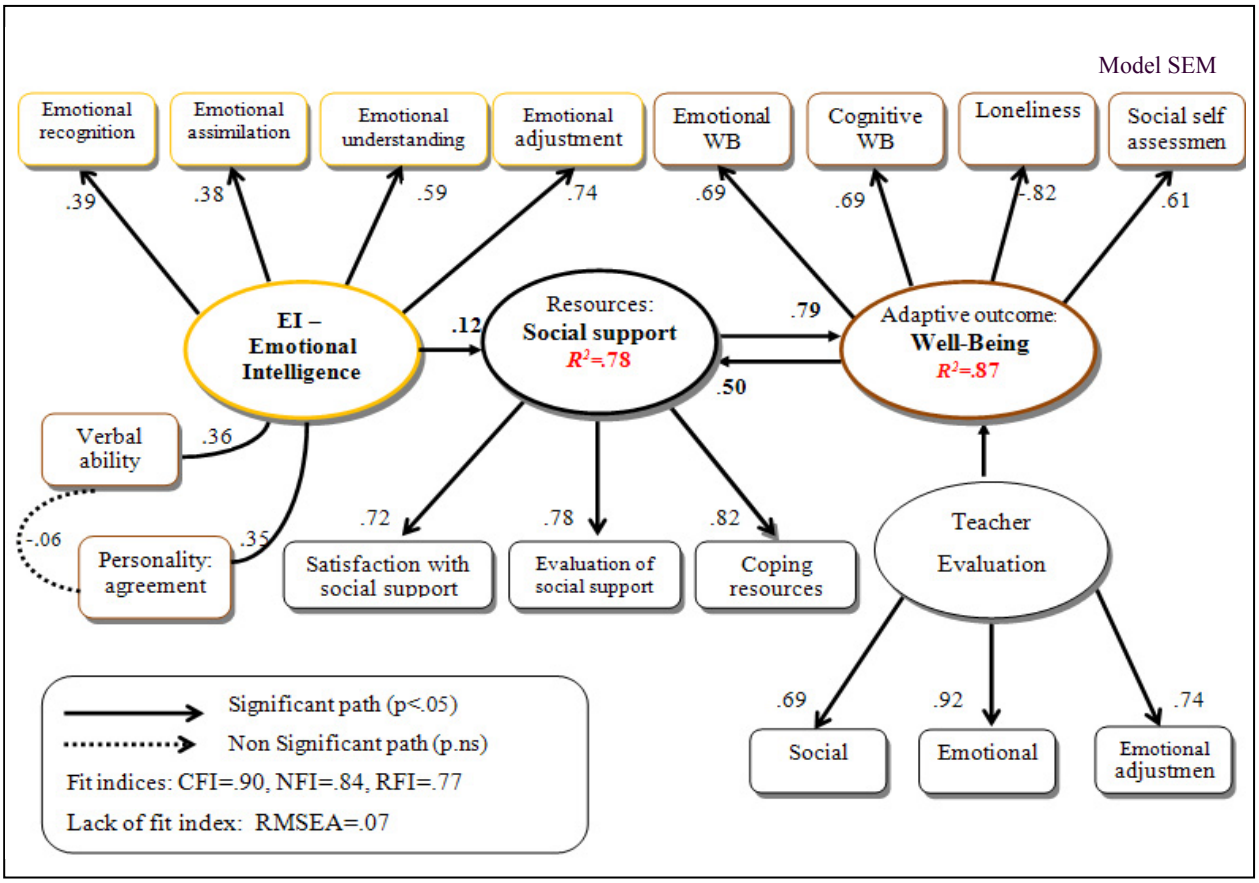

Figure 3. SEM model—The different paths for well-being gain by EI, mediated social support, including teacher evaluations.

The SEM findings support the second hypothesis and indicate a good fit between the model examined and the theoretical model hypothesized (*CFI* = 0.90; *RMSEA* = 0.07).

Figure 3 shows that, as hypothesizes, due to the sample size, χ^2 is significant, $\chi^2(60) = 143.3$, $p < 0.001$, but the relationship between χ^2 to the degrees of freedom index is 2.39 (less than 3). The RMSEA Index is 0.07, relative to the CFI index = 0.90, meaning—satisfactory adjustment. Hence, it can be concluded that the model is plausible, and there is a good fit between the model being examined and the hypothesized theoretical model.

When verbal ability and agreeableness were held statistically constant, EI influenced adaptive outcomes via social-coping resources. A modest relationship between EI and social-support resources (path coefficient = 0.12) and a strong relationship between social-support resources and adaptive outcomes (path coefficient = 0.79) appear to exist. Adaptive outcomes influence social support in a non-recursive manner (path coefficient = 0.50). The influence of teachers' evaluations on adaptive outcomes is significant but modest (path coefficient = 0.19). Significant relationships were observed between EI and verbal ability (path coefficient = 0.36) and agreeableness (path coefficient = 0.35). The predictors of adaptive outcomes in this model explain about 87% of their overall variance, and in parallel, the predictors of social-support resources explain about 78% of the variance in this variable.

In addition, a positive correlation was found between EI and general intelligence (which may suggest the emotional abilities EI comprises are supported by general intelligence abilities). Likewise, it was found that the correlations between the four components of EI are not due to mediation by intelligence.

Discussion

The purpose of the study was to examine and characterize the relationship between EI and adaptive coping with stressful situations among adolescents and to evaluate the extent to which EI facilitates adaptive coping, as theorized in the literature (Mayer & Salovey, 1997). In particular, we sought to examine the mediation of social support in this relationship.

The relationship between EI and adaptive coping with stress among adolescents. Among adolescents positive relationships were found between high EI and adaptive outcomes, which are experienced as a greater sense of personal well-being. Likewise, negative relationships were found between EI and loneliness. Modest relationships were found between EI and the scholastic functioning of adolescents.

EI and coping strategies. A prominent finding was that EI has a strong and negative correlation with the "avoidant coping strategy", but not with "problem-focused coping" or "emotion-focused coping". This finding is in line with the difficulty, presented in the literature, in determining that a particular coping strategy is more effective and adaptive than another, across different situations and in each stressful situation (Zeidner & Saklofske, 1996). Although the research literature considers problem-focused coping a type of coping that reduces threat and alleviates the stressful situation, some studies point out its negative outcomes (Deary et al., 1996; Endler & Parker, 1990).

An adaptive coping strategy appears to involve a varied repertoire of strategies for managing stressful situations, which allows for both the regulation of emotions as well as the management of the stress-inducing situation. Flexibility and creativity in choosing and applying coping strategies may therefore increase adaptiveness (Mattlin, Wethington, & Kessler, 1990). No particular coping strategy appears to be correlated with EI; these assertions are particularly valid for the adolescent population, among whom a particular coping strategy has not yet been fixed in place. Effective coping in adolescence seems to be characterized by flexibility and the capacity for change, and both emotion-focused and problem-focused coping are important to adaptive coping (Compas et al., 2001). This observation can be viewed as an explanation for the research finding that EI is not correlated with any particular kind of coping strategy.

Nonetheless, the study did find that adolescents with "low EI" tend to choose coping strategies that include "non-adaptive behaviors" (denial, use of addictive substances, and others). These strategies are termed "dysfunctional strategies" and are clustered into a group of strategies termed "avoidant coping" (Carver et al., 1989). Their purpose is to temporarily reduce the level of stress, but the problem itself remains. Similarly, research has found a negative relationship between EI and early use of drugs and alcohol by adolescents (Trinidad & Johnson, 2002; Riley & Schutte, 2003), and another study found this relationship only among boys (Brackett et al., 2004). The use of strategies that are not adaptive can be the result of difficulties processing emotional material, meaning an expression of low EI. Individuals with low EI lack the emotional skills that would allow them to identify, understand, and regulate the emotional situation that arises due to a stressful trigger, which makes choosing a coping strategy that will lead to adaptive outcomes difficult.

This finding, which is in line with the researchers' assertions, contributes to the study of the preconditions of problematic behaviors and risk factors in adolescent use of addictive substances, as well as the protective factors that contribute to their resilience. Further research should deepen and examine this subject, assessing the role of EI in combination with social-support resources as a mechanism that may serve as a "defense" against

the use of addictive substances, while addressing the different types of substances and the various non-adaptive behaviors that characterize adolescence.

EI and adaptive outcomes. This study found a modest, significant relationship between EI and a sense well-being. That is, high EI—a high ability to process emotional information—leads to adaptive outcomes when coping with stress, which is evaluated by a sense of well-being (Brackett & Mayer, 2003; Salovey & Mayer, 1990; Salovey et al., 1999). These findings are consistent with the assertions of Saarni (2000) that a sense of well-being is one of the positive outcomes of high-level emotional abilities among children and adolescents.

Studies have found high EI is related to a positive mood and to the ability to regulate mood, and even to life satisfaction, and high-level emotional abilities facilitate protection against stress, anxiety, and depression and to promote positive emotions (Ciarrochi & Scott, 2006; Law, Wong, & Song, 2004). The emotional abilities of individuals with high EI enable them to identify, understand, and regulate their emotions, and thus to succeed in maintaining a relatively stable and positive mood over a long period of time, which leads to a higher sense of well-being (Schutte et al., 2002).

The present study found a "relationship between low EI and high sense of loneliness", which has ramifications for the study of the factors that contribute to adolescents' distress and sense of social isolation. Loneliness reflects the sense of a disparity between the individual's perception of his relationships and his aspirations with respect to his social network. Although a person can feel lonely in a crowd but not feel lonely in the company of others, research has found, particularly among adolescents, that a high sense of loneliness is positively related to social rejection and negatively related to social support and acceptance. Furthermore, loneliness is negatively related to social adjustment with peer-group members and close relationships with them (Asher & Gazella, 1999). Low EI may lead to a situation in which the adolescent does not succeed in constructing a supportive social network, resulting in an increased sense of loneliness. Importantly, low EI does not necessarily lead to a sense of loneliness, and high EI does not promise personal well-being. Rather, EI plays a particular role in the sources of personal well-being and loneliness. In any case, an examination of the present research model significantly shows this relationship is not a direct one, but rather is mediated by social support resources.

The present study also found a weak relationship with scholastic functioning and verbal intelligence, as stated previously, which may form the impression that EI is somewhat related to cognitive ability.

Mediation of social support in the relationship between EI and adaptive outcomes among adolescents. Full mediation of "social support" was found in the relationship between EI and adaptive outcomes among adolescents. EI operates on adaptive outcomes not directly, but rather via social support, as predicted in the second hypothesis in accordance with the theoretical assumption of Salovey et al. (1999).

Significant relationships were found between EI and satisfaction with social support, the evaluation of social support, and with social support resources, as well as between social support and well-being (positive) and loneliness (negative). The fact that the emotional abilities EI comprises serve as communicative and social functions that carry information regarding the thoughts and intentions of people and coordinate all these thoughts and intentions in social encounters may explain the relationship between EI and social support. Accordingly, these functions are critically important to social connections, which make up the social support network (Keltner & Haidt, 2001). Similarly, Lopes, Salovey, and Straus (2003) found positive relationships between the ability to manage emotions and the quality of social relationships. In parallel, social support helps

determine adaptive outcomes. Salovey stresses that individuals with high EI will develop appropriate skills that make forging social relationships easier, furnishing them with a broad network of available social support, thus creates an emotional barrier against negative and stress-inducing life events (Salovey et al., 2000). The significant relationships found between EI and social support on the one hand, and between EI and adaptive outcomes on the other, satisfied a basis for a mediation analysis, which was carried out by SEM and which showed social support fully mediates the relationship between EI and adaptive outcomes.

A potential explanation of the mediation chain is that EI helps adolescents utilize their social-support resources, such that they can achieve a sense of well-being. In times of stress, adolescents with high EI make use of their greater emotional abilities in order to construct a strong and rich social-support network. This network equips them with significant social resources they can use as a barrier against the negative influence of stressful events, helping them reach positive adaptive outcomes, which are experienced as a relatively high sense of well-being (Salovey et al., 2000). They effectively channel the social support into support in periods of stress, and thus protect themselves using non-adaptive coping strategies. The research findings provide a preliminary answer to the question regarding the "mechanism" through which EI influences adaptive outcomes. The present study found that among adolescents, the relationship between EI and adaptive outcomes is carried out via social-support resource, and not coping strategies.

Another innovation is the bidirectional relationship ("mutual determinism") between social-support resources and well-being in the complete model, which contains unidirectional relationships between social support and well-being. The sense of well-being increases as the level of social-support resources increases, and the level of social-support resources increases as the sense of well-being is strengthened. The strength of social relationships in adolescence may influence the sense well-being more than during other life stages. Adolescents who gave strong evaluations of their social support network were found to have a greater sense of well-being than those who did not view themselves as receiving social support, similar to the findings of Diener et al. (1999). Although adolescents embody an optimal age group to demonstrate the proposed model, the study reveals a new course in understanding the dynamics between their emotional abilities and/or level of EI and their adaptive coping with stress. This finding is of substantial importance because exposure to stress and the manner of coping with it during adolescence are enormously significant to the prevention of adjustment problems. The sources of stress in the lives of adolescents have been found to embody a significant source of risk for psychopathology (Compas, Champion, & Reeslund, 2005).

Moreover, this study found the branch of "emotional regulation" makes the largest contribution to the structure of the concept of "EI" compared to the other branches. Some researchers view this ability as the decisive and most important ability in determining EI level (Gross & John, 2002; Salovey et al., 2002). Lopes, Salovey, Cote, and Beers (2004) asserted that emotional regulation has the greatest influence on social interactions, because it directly influences the expression of emotion and actual behavior, whereas the ability to identify and understand emotions has an indirect influence, focusing on deciphering clues in the environment. Regulating and managing emotions may also make a greater contribution than the other components of EI in reducing hopelessness and suicidal thoughts (Ciarrochi et al., 2002).

Gender differences. An interesting finding worthy of discussion relates to "gender differences". EI scores of girls were higher than those of boys (except for the "emotional identification", on which boys scored higher). This finding accords with previous findings (Brackett et al., 2004; Mayer et al., 2000; Shani-Zinowitz, 2002) and with the small difference in EI between boys and girls that was found in the standard sample during the

development of the MSCEIT questionnaire (Mayer et al., 2000). One of the explanations suggested is that women are better able to read hidden social information, which includes emotions expressed by facial expressions, as well as other non-verbal messages, and thus develop higher EI based on early parent-child interactions (Brackett et al., 2004). In a series of studies, Brody (1985) found that mothers exhibit a wider emotional range to daughters than to sons; in communicating with their daughters, mothers use richer and more varied facial expressions, which apparently helps girls develop better emotional identification skills. Moreover, Gur, Gunningham-Dixon, Bikler, and Gur (2002) found that the parts of the brain that are responsible for processing emotional information are larger in girls than in boys. Even so, note that these differences between boys and girl in EI were not high. Girls also reported more social support and scored higher on social skills, similar to the findings in other studies (Petrides & Furnham, 2001; Thoits, 1995). Nevertheless, no gender differences were found in the use of different coping strategies, except for emotion-focused coping, where girls scored higher, similar to Compas' (2004) findings. Conversely, boys reported a greater sense of personal well-being, and no gender difference was found in sense of loneliness. These findings provide a basis for a deeper examination of the question regarding whether interpersonal differences (sex, age, and background) affect the relationships between EI and adaptive coping with stressful situations.

Conclusion, Implications and limitations: "The Wisdom in Feeling" (Barrett & Salovey, 2002).

One of the central tasks human beings face is coping with psycho-social stress—situations that contain a potential threat or challenge, and that require an appropriate response and adjustment. Although different personality measures can identify the degree of vulnerability to stress, an important layer seems to be missing with respect to individual differences, which models and measures of EI describe (Matthews et al., 2002). The present study adds a significant layer to the characterization and conceptualization of coping during adolescence, when stress, its sources, and the manner of coping with it may bring about psychopathology and adjustment problems (Compas, Champion, & Reeslund, 2005).

The study found EI serves as a defense against the negative ramifications of stressful situations, in a manner that is independent of intelligence and that is mediated by social-support resources. The study revealed the mechanisms through which EI creates adaptive outcomes for coping with stress. Likewise, it was found that mutual determinism exists between social support and adaptive outcomes. In contrast to previous studies, this study found that among adolescents, EI operates via individuals' coping resources and not through their coping styles, which are dependent on time, the nature of the stressful encounter, and others factors. On the other hand, in a consistent and reliable pattern, EI helps adolescents make use of the social resources that stand at their disposal (social skills, availability of a social support network), enabling adaptive coping with stressors.

The findings of the study raise the question of whether we can and should use the EI framework to intervene and improve adolescents' coping processes. Will the identification of emotions, their assimilation in thinking, their understanding, and their effective and intelligent management necessarily improve adolescents' coping? Although the findings point toward affirmative responses to these questions, it is too early to provide a clear answer. These findings are preliminary, and replication, further validation, and a larger, diverged samples are necessary, as is a study of different age groups. Furthermore, if emotional knowledge can be developed and nurtured to improve coping behaviors, questions regarding the extent to which EI develops naturally, the duration of its development, the extent to which it can be developed through practice, and whether it can be

increased beyond a certain ceiling, remain unanswered. In addition, although the present study found gender differences, the sample was not sufficiently large to run SEM model separately for boys and girls and it is suggested to examine this model separately for boys and girls, in order to study the extent of the influence of gender on the central variables of the model.

Nonetheless, the EI framework can provide individuals with an auxiliary tool for understanding another aspect of themselves and their human surroundings, which can illuminate their conduct and functioning in times of stress. The theoretical framework of EI focuses particular attention on emotional abilities and their influence on the adaptiveness of the process of coping with stress. The framework of EI takes as its starting point the view that an internal relationship exists between emotion and cognition; emotions serve and complement the reasoning power of the "conscious", and play a central role in individual motivation (Salovey et al., 1999). The emphasis here is on the "wisdom" in relating to and managing emotion, and not the emotion itself.

A high level of EI represents in practice an intelligent approach to emotions, particularly meaningful in times of stress, for which the initial response is usually turbulent emotional arousal. Stressful situations require the emotional abilities to respond effectively to emotions, in a manner that will advance adaptive coping, through a number of mediating mechanisms, the most significant of which during the adolescent period, is social support.

The findings contribute to the understanding of adolescent behavior, both regarding the advancement of personal well-being during a particularly stressful life period, as well as regarding the prevention of emotional distress, sense of loneliness, and non-adaptive behaviors. On the basis of these findings, a diagnostic tool for identifying populations at risk can be developed, tailored to adolescents and based on an evaluation of adolescents' emotional abilities. The findings of the study can contribute, on the one hand, to the development of a prevention and intervention program for adolescents in schools, that will focus on nurturing emotional abilities alongside an emphasis on the value of social support, and on the other hand, to serve as an evaluative measure for existing programs on these subjects.

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