

The High School Diploma Examination: Relations among Appraisals, Emotions, and Coping

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This study investigated the relations among appraisals, emotions and coping strategies when adolescents were confronted with a stressful event: the High School Diploma examination. Italian students (N = 610) completed a questionnaire three weeks before the beginning of the exam. Data were reduced by means of principal component analyses and then multiple regression analyses were conducted to assess the relations among appraisals, emotions and coping strategies. The results suggest that students who perceived their coping potential as high, and had an internal locus of control, felt more intense positive emotions such as happiness and challenge, and adopted coping strategies such as focusing on positive aspects of the experience and seeking social support. In contrast, students who perceived their coping potential as low, and had an external locus of control, experienced more intense emotions of helplessness and frustration and adopted avoidance and isolation strategies.

Key words: *Appraisal, Emotion, Coping, High School Diploma Examination.*

I

Introduction

During adolescence, young people experience physical, social and psychological changes that are numerous and occur in rapid succession. In order to understand their experiences during this stage, it may be useful to investigate how they deal with specific problems that can arise on a daily basis and be a source of stress. Although non-normative events such as illness, parents' unemployment, or family bereavement are easily recognized as stressful events, minor hassles, pertaining to the adolescents' everyday experiences should not be underestimated with regard to the psychological stress they can cause (Farnè, 1999; 2003). To observe how adolescents cope with these kinds of events seems particularly important because, as they grow, adolescents experiment with and strengthen coping strategies that may turn out to be more or less effective for future adaptation (Seiffge-Krenke, 2000).

One such topic that has been frequently investigated is adolescents' experien-

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ces related to school which can entail a wide variety of potentially stressful events ranging from problems relating to professors and friends, indecision about future scholastic or professional choices, and above all, worries about examinations (Bonino, Cattelino, Ciairano, 2006; Caprara, Fonzi, 2000; Frydenberg, 2004). The High School exit exam, in particular, given its importance, has been the object of several studies. In this paper, we will concentrate on the studies that focused on the relations between the student's appraisals of the exam and the emotions elicited by this salient event (Smith, Ellsworth, 1987; Smith, Haynes, Lazarus, Pope, 1993), and on those that explored the relation between emotions and the strategies adopted to cope with those emotions and the exam (Folkman, Lazarus 1985; Spangler, Pekrun, Kramer, Hoffmann, 2002).

Studies addressing the relation between students' evaluation of the exam and their emotions commonly draw on "appraisal theories" (Arnold, 1960; Folkman, Lazarus, 1988a; Roseman, 1984; Scherer, 1984) which postulate that emotions are the result of a cognitive evaluation of the implications that a situation has for the individual's well-being. According to the models of Scherer (1984), Roseman (1984), and Smith and Ellsworth (1985), the primary appraisal dimensions on which the individual evaluates a situation are the following: pleasantness, novelty, predictability, importance/consequentiality, consistency/inconsistency with the individual's plans and goals, whether the individual has the resources needed to cope with the event, controllability, and causal attribution and/or responsibility. Within this theoretical approach, studies conducted on school examinations (Folkman, Lazarus, 1985; Smith, Ellsworth, 1987) suggest that emotions such as anxiety and fear are related to the evaluation of importance/consequentiality as high and coping potential as low, whereas emotions such as challenge and hope are related to the evaluation of importance/consequentiality as high and coping potential as high.

One of the most important models concerning the relationship between emotions and coping strategies was proposed by Folkman and Lazarus (1985; 1988a). According to their model, when people experience an event, they evaluate whether it is benign, threatening, or irrelevant for their well-being (primary appraisal) and whether they have the resources necessary to cope with it (secondary appraisal). On the basis of this dual evaluation process, an emotion will arise and the individual will adopt specific coping strategies to address the situation. In particular, Folkman and Lazarus (*ibid.*) distinguish two main kinds of coping: *problem-focused coping*, which has the function of modifying the situation so as to make it more favorable to the individual, and *emotion-focused coping*, which refers to the management of the emotions aroused by the stressful situation. According to the authors (1985), during school examinations, students may adopt either or both of these strategies: The first would be encouraged by emotions such as challenge and hope and would give rise to strategies such as studying, while the second would be associated more with anxiety and fear and would lead to seeking social support to better manage these emotions.

Objectives and hypotheses

Starting from these studies, the aim of the present investigation was to examine appraisals, emotions and coping together in order to determine how these three psychological processes relate to each other. To achieve this aim, we explored how students attend to the final High School examination by investigating their experiences immediately before the start of the written exam, which is a period of time characterized by uncertainty and by a high level of tension. In particular we wanted to answer the following questions: Which emotions did the students feel? Did these emotions vary depending upon their evaluation of the exam? What strategies were used most often to cope with the exam? Which strategies were more or less effective?

Finally, based on the model of Folkman and Lazarus (1988a), we wanted to explore whether students' different appraisals led to different emotions and whether the later gave rise to different coping strategies. We hypothesized that cognitive appraisals and resulting emotions would influence students' choice of specific coping strategies.

Method

3.1. Participants

Six hundred and ten students in their final year of secondary school participated in the study. Their ages ranged from 18 to 23 years ($M = 18.7$, $s.d. = 0.9$), 28% were men and 97% were Italians. 45% attended an academic-oriented High School (Humanities, Sciences, Social Sciences, Linguistics, Art) and 55% attended a professional secondary school (Technical, Professional, Educational, Arts, Tourism, Commercial).

3.2. Measures

Data were collected by means of a questionnaire that included the following three sets of items:

1. *Appraisal*. Considering the above cited appraisal models, we created 20 items which were rated on 11-point scales ranging from 0 (not at all) to 10 (extremely) to assess the following aspects of students' exam preparation experience: *a*) pleasantness, *b*) the attention paid to the exam, *c*) the importance and consequentiality of the exam, *d*) students' evaluation of their ability to cope, and *e*) causal attributions concerning the unfolding and expected outcome of the exam.
2. *Emotions*. Based on the findings of Smith and Ellsworth (1985; 1987), we as-

sessed the intensity with which students felt each of the following 18 emotions on scales ranging from 0 (not at all) to 10 (extremely): happiness, relief, interest, curiosity, surprise, hope, challenge, pride, frustration, anxiety, helplessness, boredom/indifference, shame/embarrassment, sadness, fear, anger, guilt, disgust.

3. *Coping strategies*. Based on existing questionnaires (*COPE*, Carver, Scheier, Weintraub, 1989; *Brief COPE*, Carver, 1997; *Ways of Coping*, Folkman, Lazarus, 1988b; *Emotion Regulation*, Gross, John, 2003), we selected and adapted 19 items to assess the extent to which students used specific strategies to cope with the exam. These items were rated on 11-point scales ranging from 0 (not at all) to 10 (extremely). The list contained the following types of coping strategies: *a*) problem-focused strategies (e.g., I focus only on studying), *b*) emotional expression or suppression (e.g., I let my feelings out), *c*) social support (e.g., I discuss the exam with friends), *d*) positive reappraisal (e.g., I try to learn from this experience), *f*) drug use, *g*) tension reduction by means of humor or relaxation techniques.

3.3. Procedure

The questionnaire was distributed three weeks before the beginning of the exam in 8 High Schools in Turin and in 10 High Schools in Florence. After receiving permission from the school directors and the teachers, a member of the research staff entered the classroom during school time, explained the purpose of the study, distributed the questionnaire to those students who agreed to participate (97%), and collected the completed questionnaires. Participants were informed that the questionnaire was anonymous and that, in accordance with privacy law, data would be used only for research purposes.

3.4. Data analysis

Data analysis was conducted in three steps: first descriptive statistics were computed for the assessed appraisals, emotions and coping strategies. Second, data were reduced by means of principal component analyses and then relations between the resulting components and gender were analysed. Finally, the relations between appraisals, emotions, and coping strategies were assessed using multiple regression analyses.

4 Results

4.1. Descriptive statistics

Results concerning the students' appraisals of the exam showed that the students rated it as moderate with respect to pleasantness, as requiring a lot of effort and

occupying a central place in their lives and in their thoughts (TAB. 1). Furthermore, they considered the exam to be a very important event for both themselves and their parents, and they were rather confident of their ability to put forth their best effort, despite feeling only moderately prepared and able to control their emotions. Regarding causal attributions, they expected the outcome of the exam to depend primarily on their ability and effort, but also on its difficulty and the professors. Only to a minor extent did they think the outcome would depend upon chance.

TABLE 1
Appraisal: Means and standard deviations

Item	M	s.d.
Pleasantness	5,01	2,40
Effort	8,58	1,45
Centrality	7,15	2,21
Thinking about	6,08	2,08
Personal importance	7,32	2,49
Importance for parents	7,59	2,37
Consequentiality	5,76	2,95
Goal conduciveness	5,16	3,11
Growing	6,39	2,71
Ability to control emotions	4,43	2,69
Ability to give the best	6,39	1,20
Compatibility with expectations	5,42	2,32
Preparedness	5,36	2,13
Clear idea	5,93	2,34
Correctness of evaluation	6,11	2,37
Ability	8,54	1,63
Engagement	8,43	1,64
Difficulty of exam	8,06	1,74
Professors	7,62	2,10
Chance	5,99	2,68

The emotions students felt most intensely were anxiety, fear, and hope, followed by challenge, interest, curiosity, relief and pride (TAB. 2). Although at rather low intensities, about 60% of the students also reported feeling frustration, sadness, shame/embarrassment, anger, happiness, helplessness and surprise. Finally, guilt, boredom and disgust were reported only at very low intensity levels, and about half of the students reported that they did not feel these emotions.

TABLE 2

Emotions: Means, standard deviations and percentages of presence

Item	M	s.d.	%
Anxiety	7,74	2,56	98,0
Fear	7,49	2,52	98,7
Hope	7,48	2,59	96,4
Challenge	5,86	3,29	87,7
Interest	5,25	2,80	91,1
Curiosity	4,69	2,93	85,1
Relief	4,68	3,77	73,9
Pride	4,01	3,36	72,1
Frustration	3,80	3,51	67,7
Sadness	3,79	3,20	77,9
Shame/Embarrassment	3,26	3,23	67,5
Anger	2,89	3,03	67,8
Happiness	2,80	2,60	69,5
Helplessness	2,73	3,07	59,5
Surprise	2,70	2,64	67,9
Guilt	2,01	2,86	45,2
Boredom/Indifference	1,82	2,46	50,3
Disgust	1,69	2,84	37,7

The strategies that students reported using most were trying to learn from the experience, trying to see the positive aspects of the experience, discussing the exam with friends, expressing their feelings, and engaging in fun activities (TAB. 3). To a lesser degree, students also reported focusing only on studying and thinking only of the exam, or conversely, distancing themselves from the exam or their feelings by taking their mind off the exam, minimizing the exam, not showing or suppressing their emotions, and isolating themselves. Regulation strategies used very little included deciding that it was futile to do anything, using relaxation techniques, using a good luck charm, praying, and using drugs to relax or concentrate.

4.2. Principal components analysis

Considering separately each of the three item sets (appraisal, emotions, coping), we computed principal components analyses with Varimax rotation and extraction of components with Eigenvalues above 1.

With respect to the appraisals, a solution entailing five components and explaining 57,2% of the total variance (TAB. 4) was obtained. Because the first component showed high loadings with items referring to the ability to control emotion, the ability to put forth one's best effort, and the feeling of being prepared, it

was labeled “coping potential”. The second component, called “attention/effort” included items referring to the place the exam occupied in the students’ lives and the amount of thought and effort it required. The third component, called “importance/consequentiality”, showed high loadings with items assessing the extent to which students thought the exam would be important for themselves and their parents and have consequences for their future. Finally, the item loadings suggest that the fourth and fifth components can be interpreted as internal and external locus of control, respectively. In the first case, students attributed the unfolding of the exam to their ability and effort, whereas in the second, they attributed it to the professors, chance, or the difficulty of the exam.

TABLE 3

Coping: Means, standard deviations and percentages of presence

Item	M	s.d.	%
I try to learn from the experience	5,90	2,85	93,1
I discuss the exam with friends	5,78	2,64	96,2
I engage in fun activities	5,68	2,90	92,6
I seek emotional support	5,44	3,09	89,7
I try to see positive aspects of the experience	5,21	2,89	90,2
I let my feelings out	4,72	2,82	91,1
I try to make my mind off the exam	4,57	3,11	83,9
I focus only on studying	4,50	2,74	89,0
I make fun of or minimize the exam	3,93	3,18	75,9
I try not to show my feelings	3,76	3,09	78,0
I think only about the exam	3,16	2,82	73,0
I try to suppress my emotions	2,16	2,61	56,6
I withdraw and isolate myself	2,08	2,74	51,3
I think it is useless to do anything	1,87	2,70	45,7
I practice relaxation techniques	1,51	2,48	40,7
I pray or go to church	1,41	2,64	30,3
I prepare my mascots	0,86	1,88	28,7
I take drugs to concentrate	0,72	1,96	17,5
I take drugs to relax	0,64	1,99	13,9

The principal components analysis carried out on the emotions that students experienced resulted in a solution entailing four components which accounted for 55,4% of the total variance (TAB. 5). The first component, labeled “helplessness/frustration”, showed high loadings with emotions that denote a sense of powerlessness and lack of situational control. In contrast, the second component, labeled “happiness/interest”, showed high loadings with emotions denoting a positive approach to the situation. The third component was interpreted as

“fear/anxiety” since it loaded positively with these two emotions and negatively with boredom/indifference. Finally, the fourth component was interpreted as “challenge/hope”.

TABLE 4
Appraisal: Component matrix after Varimax rotation

Item	Components ^a				
	1	2	3	4	5
Ability to control emotions	0,682				
Ability to give the best	0,658				
Compatibility with expectations	0,636				
Preparedness	0,623				
Clear idea	0,608				
Pleasantness	0,537		0,447		
Centrality		0,827			
Thinking about		0,808			
Effort		0,670			
Consequentiality			0,692		
Importance for parents			0,618		
Personal importance		0,485	0,614		
Goal conduciveness			0,559		
Growing			0,518		
Ability				0,755	
Engagement				0,716	
Correctness of evaluation	0,432			0,538	
Professors					0,771
Chance					0,759
Difficulty of exam				0,421	0,591
Initial Eigenvalues	4,78	2,72	1,53	1,34	1,07
% Explained variance	23,89	13,60	7,65	6,68	5,36

^a Components were labeled as follows: 1 = Coping potential, 2 = Attention/Effort, 3 = Importance/Consequentiality, 4 = Internal locus, 5 = External locus.

Note: for clarity of the presentation, loadings below 0,400 are not displayed.

The principal component analysis carried out on the coping strategies produced a solution with six components accounting for 57,5% of the total variance (TAB. 6). The first component showed high loadings with items referring to the suppression of emotional feelings and their outward expression and attempting to isolate oneself, thus it was labeled “emotional suppression”. The second component was interpreted as “amusement/distraction” since it presented positive loadings with strategies aimed at distancing oneself from the exam, for

example by taking one's mind off the exam or engaging in fun activities, and negative loadings with strategies that focused on the exam by studying and thinking continuously about it. The third component, defined as "social support", showed high loadings with items such as discussing the exam with friends and seeking emotional support. The fourth component was interpreted as "positive view" since items which indicate an emphasis on the positive aspects of the event showed high loadings on this component. The fifth component, called "drugs", included reliance on drugs to relax or concentrate. Finally the sixth component was labeled "magical/spiritual support" since items that referred to reducing tension through the use of good luck charms or praying loaded highly on this component.

TABLE 5
Emotions: Component matrix after Varimax rotation

Item	Components ^a			
	1	2	3	4
Anger	0,708			
Helplessness	0,704			
Disgust	0,690			
Sadness	0,640			
Frustration	0,639			
Guilt	0,631			
Shame/Embarrassment	0,512		0,406	
Happiness		0,759		
Surprise		0,724		
Curiosity		0,658		
Interest		0,586		
Relief		0,577		
Fear			0,836	
Anxiety			0,797	
Boredom/Indifference			-0,606	
Challenge				0,777
Pride				0,731
Hope				0,594
Initial Eigenvalues	3,70	3,29	1,81	1,167
% Explained Variance	20,58	18,26	10,07	6,47

^a Components were labeled as follows: 1 = Helplessness/Frustration, 2 = Happiness/Interest, 3 = Fear/Anxiety, 4 = Challenge/Hope.

Note: for clarity of the presentation, loadings below 0,400 are not displayed.

TABLE 6

Coping: Component matrix after Varimax rotation

Item	Components ^a					
	1	2	3	4	5	6
I try to suppress my emotions	0,801					
I try not to show my feelings	0,754					
I withdraw and isolate myself	0,692					
I think it is useless to do anything	0,488					
I engage in fun activities		0,704				
I make fun of or minimize the exam		0,653				
I focus only on studying		-0,592				
I try to make my mind off the exam		0,556				
I think only about the exam		-0,534				
I discuss the exam with friends			0,715			
I seek emotional support			0,698			
I let my feelings out			0,683			
I try to see positive aspects of the experience				0,885		
I try to learn from the experience				0,882		
I take drugs to concentrate.					0,843	
I take drugs to relax					0,826	
I practice relaxation techniques						0,713
I prepare my mascots						0,566
I pray or go to church						0,512
Initial Eigenvalues	3,07	2,10	2,01	1,50	1,17	1,08
% Explained Variance	16,17	11,04	10,57	7,87	6,15	5,71

^a Components were labeled as follows: 1 = Emotion suppression, 2 = Amusement/Distraction, 3 = Social support, 4 = Positive view, 5 = Drugs, 6 = Magical/spiritual support.

Note: for clarity of the presentation, loadings below 0,400 are not displayed.

4.3. Gender differences

To test for gender differences in appraisals, emotions, and coping strategies, an ANOVA was carried out using the component scores of each participant. This analysis proved to be significant, $F_{(15,589)} = 9,04$, $p < 0,001$, $\eta_p^2 = 0,19$. Specifically, boys rated their potential to cope with the exam as higher ($M = 0,19$, $s.d. = 0,90$) than girls ($M = -0,08$, $s.d. = 1,03$), $F_{(1,605)} = 9,77$, $p < 0,01$, $\eta_p^2 = 0,02$. Moreover, boys rated the required effort as lower ($M = -0,51$, $s.d. = 1,00$) than girls ($M = 0,21$, $s.d. = 0,92$), $F_{(1,605)} = 72,68$, $p < 0,001$, $\eta_p^2 = 0,11$, and reported feeling less fear/anxiety (boys: $M = -0,55$, $s.d. = 0,96$; girls: $M = 0,23$, $s.d. = 0,92$), $F_{(1,605)} = 88,13$, $p < 0,001$, $\eta_p^2 = 0,13$. Finally, boys used the strategy of “distraction/amusement” to cope with the exam ($M = 0,23$, $s.d. = 0,94$) more than girls ($M = -0,10$, $s.d. = 1,00$), $F_{(1,605)} = 14,14$, $p < 0,001$, $\eta_p^2 = 0,02$, whereas girls sought social support ($M = 0,06$, $s.d. = 1,02$) more than boys ($M = -0,15$, $s.d. = 0,96$), $F_{(1,605)} = 5,53$, $p < 0,05$, $\eta_p^2 = 0,01$.

4.4. Multiple regression analyses

We conducted multiple regression analyses to assess whether students' appraisals were related to their emotions and whether appraisals and emotions considered together were related to the adopted coping strategies. Given the observed gender differences, these analyses were computed separately for boys and girls.

Frustration/Helplessness: For boys, frustration/helplessness was positively associated with appraising coping potential as low ($B = -0,368$, $t_{(171)} = -5,15$, $p < 0,001$) and with attributing the outcome of the exam to external causes ($B = 0,21$, $t_{(171)} = 3,49$, $p < 0,01$), whereas this feeling was negatively associated with attributing the outcome of the exam to internal causes ($B = -0,14$, $t_{(171)} = -2,05$, $p < 0,05$; adjusted $R^2 = 19,9\%$). The appraisal profile was very similar for girls; but in addition, the less important/consequential girls appraised the exam to be, the more they felt frustrated/helpless (coping potential: $B = -0,377$, $t_{(432)} = -9,14$, $p < 0,001$; importance/consequentiality: $B = -0,175$, $t_{(432)} = -4,12$, $p < 0,001$; external locus: $B = 0,318$, $t_{(432)} = 7,29$, $p < 0,001$; internal locus: $B = -0,091$, $t_{(432)} = -2,17$, $p < 0,05$; adjusted $R^2 = 26,4\%$).

Happiness/Interest: For boys, happiness/interest was related to high coping potential ($B = 0,356$, $t_{(171)} = 5,01$, $p < 0,001$), to the evaluation of the exam as important/consequential ($B = 0,408$, $t_{(171)} = 6,29$, $p < 0,001$), and to not attributing the outcome of the exam to external causes ($B = -0,322$, $t_{(171)} = -5,36$, $p < 0,001$; adjusted $R^2 = 32,0\%$). 7%). Girls made similar appraisals, although happiness/interest was not negatively associated with external causal attribution (coping potential: $B = 0,204$, $t_{(432)} = 4,88$, $p < 0,001$; importance/consequentiality: $B = 0,369$, $t_{(432)} = 8,56$, $p < 0,001$; adjusted $R^2 = 17,9\%$).

Fear/Anxiety: For boys, fear/anxiety was related to evaluating the exam as requiring a lot of attention/effort ($B = 0,462$, $t_{(171)} = 7,83$, $p < 0,001$), as being important/consequential ($B = 0,191$, $t_{(171)} = 3,16$, $p < 0,01$), coping potential as being low ($B = -0,223$, $t_{(171)} = -3,40$, $p < 0,01$), and the exam's outcome as depending on internal ($B = 0,176$, $t_{(171)} = 2,87$, $p < 0,01$) as well as external causes ($B = 0,117$, $t_{(171)} = 2,13$, $p < 0,05$; adjusted $R^2 = 36,1\%$). In girls the appraisals related to this feeling were very similar but they attributed the outcome of the upcoming exam only to internal causes (attention/effort: $B = 0,480$, $t_{(432)} = 12,37$, $p < 0,001$; importance/consequentiality: $B = 0,197$, $t_{(432)} = 5,56$, $p < 0,001$; coping potential: $B = -0,240$, $t_{(432)} = -6,91$, $p < 0,001$; internal locus: $B = 0,167$, $t_{(432)} = 4,72$, $p < 0,001$; adjusted $R^2 = 35,5\%$).

Hope/Challenge: For boys, hope/challenge was related to evaluating the exam as requiring a lot of attention/effort ($B = 0,283$, $t_{(171)} = 3,84$, $p < 0,001$) and attributing its outcome to internal ($B = 0,168$, $t_{(171)} = 2,22$, $p < 0,05$) as well as external causes ($B = 0,159$, $t_{(171)} = 2,31$, $p < 0,05$; adjusted $R^2 = 10,8\%$). Like boys, also girls evaluated the exam as requiring a lot of attention/effort ($B = 0,233$, $t_{(432)}$

= 4,75, $p < 0,001$), but they also appraised it as an important/consequential event ($B = 0,197$, $t_{(432)} = 4,46$, $p < 0,001$), considered their coping potential to be rather high ($B = 0,146$, $t_{(432)} = 3,33$, $p < 0,01$) and attributed the exam's outcome only to internal causes ($B = 0,103$, $t_{(432)} = 2,33$, $p < 0,05$; adjusted $R^2 = 12,0\%$).

To find out whether appraisals and the related emotions were also linked to the coping strategies that students adopted, once the absence of collinearity among predictors had been verified, we computed a hierarchical regression analysis. Specifically, in the first step the five appraisal components were entered, in the second step the four emotion components were added. The six coping dimensions were considered as dependent variables. Standardized Beta coefficients are presented in TAB. 7 which also reports the percentage of explained variance after the first and the second step.

Emotion suppression: Independent of gender, emotion suppression was predicted by appraising coping potential as low, appraising the exam as requiring a lot of attention/effort and expecting the outcome of the exam to depend upon external causes. When the four emotion components were entered at step 2, frustration/helplessness also predicted this strategy.

Distraction/Amusement: This strategy was the only one that was related to the evaluation of the exam as not requiring much attention/effort. Furthermore, it was related to the evaluation that the outcome of the exam depended upon external causes. In addition, for boys this strategy was also predicted by the evaluation that the exam was not very important/consequential, whereas in girls distraction/amusement was predicted by feeling less fear/anxiety.

Social support: In boys this strategy was predicted by evaluating coping potential as high and the exam as requiring attention/effort, whereas in girls the later evaluation as well as external causal attribution favored the choice of this strategy.

Positive view: Independent of gender, this strategy was predicted by the evaluation of coping potential as high, the importance/consequentiality of the exam as high, and feeling positive emotions. Moreover, boys were more likely to choose this strategy when they evaluated the exam as requiring a lot of attention/effort, whereas when they felt greater frustration/helplessness they less adopted this strategy. For girls, internal causal attribution was a further significant predictor of this strategy.

Drugs: The use of drugs was predicted by an external locus of control and by feeling frustration/helplessness for boys as well as girls. Moreover for girls, the choice of this strategy was favored by the evaluation that the exam would require a lot of attention/effort and that they had low potential to cope with it, whereas for boys the evaluation of high coping potential predicted drug use.

Magical/spiritual support: The explained variance indicated that this strategy was poorly predicted by appraisals and emotions.

TABLE 7
Coping: Summary of hierarchical regression analyses predicting coping strategies of boys and girls

Predictor	Emotion suppression		Amusement/ Distraction		Social support		Positive view		Drugs		Magical/ Spiritual support	
	M	F	M	F	M	F	M	F	M	F	M	F
<i>Appraisal</i>												
Coping potential	-0,173*	-0,202***			0,244***		0,352***	0,288***	0,156*	-0,181***	0,161*	
Attention/Effort	0,178*	0,148**	-0,401***	-0,436***	0,443***	0,343***	0,224**		0,211***			
Importance/Consequentiality.			-0,143*				0,289***	0,273***				0,117*
Internal locus								0,148**				
External locus	0,221**	0,161**	0,185**	0,121**		0,137**			0,159*	0,093*		
Change in R ² (%)	12,0	8,1	21,8	20,7	23,2	13,4	24,7	18,3	4,9	7,7	2,6	1,4
<i>Emotions</i>												
Helplessness/Frustration	0,382***	0,286***					-0,148*		0,382***	0,146**		0,100*
Happiness/Interest							0,283***	0,320***				
Fear/Anxiety				-0,122*								
Challenge/Hope							0,219**	0,152***				
Change in R ² (%)	10,9	6,4	0,0	1,2	0,0	0,0	9,3	9,7	11,7	1,6	0,0	1,0

Note: standardized Beta coefficients of the predictors included in the final model are reported.

* p < 0,05; ** p < 0,01; *** p < 0,001.

Discussion and conclusions

The present study showed that, during the period preceding a potentially stressful event, such as the final High School exam, adolescents experience a range of emotions and apply a variety of coping strategies based on how they evaluate the situation. Generally, students considered the exam to be an important event for themselves and their parents, found it very useful for their personal growth and relevant for their future. Moreover, concentrating on the period immediately before the exam, this event appeared to be characterized by uncertainty, since students reported not having a clear idea about how the exam would unfold or about its final outcome. This uncertainty was reflected in the kinds of emotions students reported with great intensity: anxiety, fear, hope and challenge. Concerning coping strategies, this study showed that, students primarily reported using strategies that can be considered “adaptive” with respect to the aim of passing the exam. They discussed the exam with friends, sought emotional support, tried to see the positive aspects of the experience, and (obviously) studied. To a lesser extent, they also adopted strategies which could be considered “maladaptive”, attempting to avoid the problem or the related emotions.

With respect to the relation between appraisals and emotions, consistent with prior research (Smith, Ellsworth, 1985; Folkman, Lazarus, 1988a), results of the present study indicate that specific patterns of appraisal predict and differentiate emotions. In particular, the coping potential appraisal seemed to be fundamental for distinguishing emotions in terms of positive/negative value, differentiating joy/interest and hope/challenge, which were associated with evaluating coping potential as high, from helplessness/frustration and fear/anxiety, which were associated with evaluating coping potential as low. The other factor that seems critical for differentiating emotions is causal attribution: while external locus predicted helplessness/frustration, internal locus was more closely related to fear/anxiety and hope/challenge.

But perhaps the most interesting result of this work, was the finding that as appraisal and emotions change, coping strategies change too. Specifically, the evaluative dimension “attention/effort” differentiated the strategy of “distraction/amusement” from other coping strategies; it was the only strategy associated with the evaluation that the examination did not require many resources. All of the other strategies assessed were associated with the evaluation that the demands of the exam in terms of attention/effort were very high. Appraised coping potential further differentiated the adoption of specific coping strategies. For example, viewing coping potential as high was associated with considering the exam to be an opportunity to learn, grow and improve, and, especially in boys, to seek social support. In contrast, considering coping potential as low, was associated with emotion suppression, and in girls, with the use of drugs.

Another important factor for differentiating coping strategies was locus of control: an external locus was related to emotion suppression, to distraction/amusement, whereas an internal locus favored focusing on positive aspects of the situation.

To sum up, appraising coping potential as high is associated with choosing strategies such as seeking social support, which includes conferring with friends and venting emotions, and focusing on positive aspects of a situation. In contrast, appraising coping potential as low is associated with the belief that it is useless to do anything, suppressing emotions and isolating oneself. Adoption of avoidance strategies of this type may increase the risk of failure and generate a vicious circle from which it is difficult to extract oneself. Protracted experiences of failure may reduce motivation to achieve competence and motivation to face similar challenges in the future. This would hinder, not only the attainment of competence, but also adoption of adaptive strategies that would encourage students to face challenging situations and solve problems (De Beni, Carretti, Moè, Pazzaglia, 2008; De Beni, Moè, 2000; Harter, 1978; Schunk, 1989). Moreover, a negative balance of the outcomes of one's own past experiences could jeopardize the sense of self-efficacy (Bandura, 1997), enhance the sense of helplessness, and favor the onset of depression and anxiety (Seiffge-Krenke, 2000).

In conclusion, the present research elucidates how specific profiles of appraisals and the related emotions influence the choice of specific coping strategies. In future research it would be useful to adopt longitudinal methods to examine how adopting particular coping strategies result in changes in appraisals over time. According to Scherer (1982; 1984), the individual is engaged in continuous re-appraisal and the relations among cognitive evaluations, emotional reactions and coping represent an ongoing dynamic process. This assumption is also consistent with the model of Folkman and Lazarus (1988a) which holds that the aim of the appraisal-emotion-coping process is to modify the person-environment relationship. Such modification presents the individual with a new situation that requires a new appraisal, and leads in turn to the experience of new emotions and to the adoption of different coping strategies.

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Riassunto

Il presente studio si propone di evidenziare le relazioni tra valutazioni cognitive (*appraisal*), emozioni e strategie di *coping* in una situazione potenzialmente stressante per l'adolescente: l'esame di Stato. A tale scopo è stato chiesto a 610 studenti di compilare un questionario tre settimane prima dell'inizio delle prove. I dati raccolti sono stati ridotti attraverso analisi in componenti principali e la relazione tra *appraisal*, emozioni e strategie di *coping* è stata valutata tramite analisi di regressione. I risultati evidenziano che gli studenti che ritengono di avere un'alta capacità di far fronte all'esame e che attribuiscono il suo andamento a cause interne, provano emozioni positive, quali gioia e sfida, e, tra le strategie di *coping*, adottano maggiormente la rivalutazione dell'esperienza in termini positivi e la ricerca di un supporto sociale. Al contrario, coloro che ritengono di non essere in grado di far fronte all'esame e attribuiscono il suo andamento a cause esterne, vivono emozioni di impotenza e frustrazione e mettono in atto tentativi di evitamento e isolamento.

Parole chiave: *valutazioni, emozioni, coping, esame di maturità*.

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