Original Research Article

Adolescents' And Young adults' Coping Strategies Influence Their Psychosocial Well-Being

ABSTRACT

Aims: Adolescence is a developmental period characterized by many physical, psychological and social transformations, eliciting experiences of emotional arousal that might increase psychopathology risk (e.g. affective and behavioral disorders). The study tested adolescents' use of coping strategies and their psychosocial well-being.
Method: Participants (N 1060) were Italian students, 14 to 22 years old, adolescents and young adults, who completed a survey. Psychosocial well-being, and its relation to coping strategy use, was assessed by measuring subjective health perception, life satisfaction, positive and negative felt affect, emotional and social loneliness.
Results: Adolescents were found to use the healthier strategies of Seeking social support, Problem Orientation, and Positive attitude more than the less functional strategy of Avoidance; a Transcending Orientation was also not much reported. Preference for strategy types formed a coherent pattern - e.g., Problem Orientation was positively associated with Positive attitude. Preferences for strategy types were significantly associated to wellbeing levels in the expected direction. Avoidance was found to be the most important coping strategy, negatively associated with most well-being indicators, e.g. predicting greater Emotional loneliness, and lower perceived Health; vice versa, Seeking social support and Problem solving were associated with lesser Social loneliness and higher levels of Positive affect and Life satisfaction. Although result patterns were quite similar across age groups and sex, some differences were observed.
Conclusion: Preferences for more or less functional coping strategies impact on well-being, suggesting that a better understanding of these processes in adolescence and early adulthood may help us understand individual differences in mental health and adjustment.

Keywords: Adolescence, coping strategies, psychosocial well-being, Italian adolescents

1. INTRODUCTION

Adolescence is a crucial life period in which several physical, cognitive, emotional and behavioral changes occur, including attachment-pattern changes that imply changes in emotional experiences about self, parents and peers [1]. Such changes imply frequent new and intense emotional experiences - more so than occurs in other developmental stages [2] [3] - that need to be coped with in the best possible way. For instance, adolescents frequently report school-related stressors, as well as interpersonal stressors such as conflicts with parents, siblings, and peers - e.g., [4] [5] [6]. Such daily stressors are significantly related to psychological symptoms. Compared with other life stages, adolescence is also a period of increased emotional instability, characterized by a higher frequency of both internalizing (e.g., depression) and externalizing (e.g., antisocial behaviors) disorders. During adolescence, however, motivational reward cues are particularly salient, leading to greater risk of suboptimal choices, i.e., to less effective coping in order to implement goal-oriented behavior [7].

Coping difficulties in adolescence are linked with disorders such as depression, anxiety, and problem behavior [8] [9] [4], and children's and adolescents' coping abilities play a significant moderating role on psychopathology. From infancy through early adulthood, the preference for this or that coping strategy is likely to change as a function of individual experiences with, and of knowledge about, the likely outcome of this or that strategy, such as recurring to social support or employing a problem-solving approach. We might thus hypothesize that adolescence is most likely a crucial period in the development and maturation of coping strategies. The analysis of coping strategies in adolescence may thus help us studying psychopathology development and the onset of psychosocial difficulties [10] [11] [12], better understanding individual differences in psychosocial well-being and adjustment [3], and preventing psychosocial problems linked with the use of dysfunctional regulation strategies in adulthood [13].

1.1. Aims and Hypotheses

The present study[2] – part of a larger research project on adolescents' and adults' emotional competences, in relation to a variety of socio-demographic and personal traits, and to well-being; e.g., [14] [15] [16] [17] - aimed to contribute to a better understanding of the coping strategies used by adolescents and of their association with psychosocial well-being and functioning in adolescence -as measured by life satisfaction, felt affect, loneliness and health, i.e., using a broad, extensive set of psychosocial health indicators. The main hypotheses were that:
1. Coping preferences would be reflected in well-being levels;
2. Coping preferences would change with age, from early adolescence to late adolescence and young adulthood, becoming better suited to deal with challenges and problems;
3. Gender differences would be observed, with girls and women preferring more than boys and men strategies that build on interpersonal relationships, such as seeking social support, and boys and men preferring more than girls and women strategies that build on power and agency, such as a problem-solving orientation. Gender differences might be expected to the extent that stereotypical gender norms and roles are internalized. However, the extent to which such gender stereotypes characterized the sample was not directly assessed in this study.

2. METHODOLOGY

2.1 Participants and Procedure

Participants were 1060 (61,4 females) Italian students of senior high-school (attending various school types, mostly 68.6% lyceums) and university (18 to 22 year-olds) who answered a pen-and-pencil or an online survey (that included also measures not considered in this study). Participants were recruited through schools, thanks to school masters' agreement, and at university classes, as well via a university online advertisement and invitation. Participants were briefly presented the study during school time, but completed the survey (in about forty minutes) during their free time, on a voluntary basis. Students were assured of the confidentiality of their answers. The students who completed the online survey were returned a short individual online report about how their results in various measures compared with the overall peer-sample means. More specifically, of the 1060 participants, 64,2% were attending a senior high school, 30,6% attended the university; for 7,5% this info was missing. The age of senior high school students ranged from 14 to 21 years, with 14 yr.-olds attending mostly class 1 (68,9% of class 1 students), 15 yr.-olds attending mostly class 2 (62,0% of class 2 students), 16 yr.-olds attending mostly class 3 (72,9%), 17 and 18 yr.-olds attending mostly class 4 (respectively 59,3% and 29,3%) and finally class 5 being attended by mostly 18 and 19 yr.-olds (respectively 63% and 27,2%). As senior high-school students were characterized by a large age range (18 to 22 years), young university students who participated in the larger research project – e.g., [14] - were included in the study provided their age was 22 years at most.

To better analyze age-related differences in relation to sufficiently large samples for each age group, participants were subdivided into *five age groups*. Age-group re-classification (see Table 1) was obtained by recoding participants' reported age in years and months as follows. Early adolescence: 14 to 15,6 years (N=145; 11,5% of all males); two Middle adolescence groups: 15,7 to 17 years, and 17,1 to 18,6; Late adolescence: 18,7 to 20 years; Young adulthood: 20,1 to 22,0 years (i.e., participants at the end of their 21st year).

Table 1 . Frequency of Males and Females in 5 age groups, defined by years and months.

Age group		% M	% F	N Total	% Total
	Years,months				
1	14,0 -15,6	11,5	15,1	145	13,7
2	15,7 -17,0	13,0	14,7	149	14,1
3	17,1 -18,6	32,5	20,4	266	25,1
4	18,7 - 20,0	21,0	20,0	216	20,4
5	20,1 - 22,0	22,0	29,8	284	26,8
Total %		100	100	100	100
Total N		409	651	1060	100

2.2 Measures

Coping. Coping strategies were assessed with COPE (Coping Orientation to the Problems Experienced [18], using the Italian Version COPE-NIV [19] that represents an improvement of a previous Italian version). COPE is composed of 60 self-report items - using a 4-point scale ranging from 1, I don't usually do it, to 4, I do it almost always - subdivided into five subscales: Seeking social-support, Avoidance, Problem-orientation (i.e. problem-solving), Positive-attitude and Transcending Orientation (i.e.,Turning to religion and humor).

[2] Preliminary results of the study were presented at the 10th International Conference on Education and New Learning Technologies, 2-4 July, 2018, Palma (Spain).

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Psychosocial Well-being. Well-being was assessed with reference to four variables, measured by self-report scales that included six subscales in total. Participants' scores were averaged over each subscale - see [17].
Affect was investigated with the Positive and Negative Affect scale - PNA; e.g., [20]. Participants reported the frequency with which they felt each of 14 positive and negative emotions in the last 15 days. Response options were on a 6-point scale, from "never" to "very often".
Adolescents' *Life satisfaction* was assessed using the 5-item Life satisfaction scale - LSS [21]; e.g., [20] - with 6-point options ranging from "false of myself" to "true of myself".
The *General health questionnaire* (GHQ-12 items) evaluated participants' perception of their health level. The scale [22] [23] assesses participants' inability to carry out normal daily activities, to cope with everyday problems, and measures general dysphoria, anxiety and depression. Responses, on a 6-point scale, "from not at all" to "much", were reversed, when necessary, for single items so that *low* scores always indicated low health and high scores denoted good health.
Loneliness was measured with an 11-item scale [24] [25] assessing perception of *Emotional* and *Social loneliness* on a 6-point scale, from "false of myself" to "true of myself". Given item phrasing, high Social loneliness scores actually indicate perception of social support, i.e., lack of social loneliness.

Table 2. Mean ratings on Coping and Well-being measures

	N	Standardized Cronbach Alpha	Maximum score	Mean	*sd*
C-Avoidance	950	,866	4,00	1,61	0,43
C-Social support	951	,894	4,00	2,63	0,64
C-Positive Attitude	949	,777	5,17	2,51	0,49
C-Problem Orientation	949	,863	4,00	2,60	0,55
C-Transcendent Orientation	948	,793	3,75	1,70	0,57
GHQ_Psychological Health	1010	,859	5,00	3,08	0,95
Life satisfaction	1038	,847	5,00	2,67	1,08
A-Positive emotions	1058	,765	5,00	3,25	0,96
A-Negative emotions	1058	,768	5,00	2,26	0,87
L-Social support	1039	,898	5,00	3,55	1,22
L-Emotional	1039	,841	5,00	1,53	1,15

Legend.

Subscales: C: Coping; A: Affect; L: Loneliness.

2.3 Statistical Analyses

Descriptive and reliability analyses were performed for all subscales for the total sample, and for gender and age sub-samples. Gender and age differences in using coping strategies were tested by means of MANOVAs and ANOVAs. Zero-order and partial correlations, controlling for either gender or age, explored the relationships between coping and well-being variables - positive and negative felt affect, life satisfaction, emotional and social loneliness, and psychological health. Expected relationships among the tested variables were finally assessed in linear regression analyses, with each well-being outcome as a dependent variable in turn, controlling for gender and age effects, with gender and age categories entered in the first step of the regression, and coping strategies added in the second step.

3. RESULTS AND DISCUSSION

The following sections report the main results[3] that were obtained in the various analysis types that were performed on participants' ratings of the mentioned variables.

[3] The probability level *P* of results is reported using superscripts, as follows: *P: ^{a} = 0,001, ^{b} =0,01, ^{c} =0,05.*

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3.1 Adolescents' and young adults' coping and wellbeing: An overall view.

Mean ratings obtained by the sample are reported in Table 2, together with Cronbach alpha values for each measure. The results showed that the employed measures are valid ones, and the sample is overall a healthy one, in terms both of coping preferences and wellbeing indicators. Students were found to use the healthier strategies of seeking Social support, and adopting a Problem Orientation and a Positive attitude more than the less functional strategies of Avoidance and adopting a Transcending Orientation. Participants similarly reported a relatively high level of perceiving social support (i.e., not suffering from social loneliness), relatively frequent positive emotions (e.g., joy, pride), and a sufficient to medium level of psychological health. Coherently with the just reported wellbeing-indicators results, negative emotion feelings (e.g., sadness, anger), as well as emotional loneliness, were reported somewhat infrequently. The degree of association (Pearson's *r*) of the coping strategies with each other, and with the well-being indicators is reported in Table 3.

Table 3. Correlations of Coping and Wellbeing measures (controlling for age)

	1. C	2. C	3. C	4. C	5. C
1. C-Avoidance	1	,503[a]	,292[a]	,115[a]	,203[a]
2. C-Transcendent Ori.	,503[a]	1	,296[a]	,212[a]	,206[a]
3. C-Positive Attitude	,292[a]	,296[a]	1	,613[a]	,352[a]
4. C-Problem Orientat.	,115[a]	,212[a]	,613[a]	1	,402[a]
5. C-Social support	,203[a]	,206[a]	,352[a]	,402[a]	1
6. GHQ-Psychol. Health	-,189[a]	,034	,084[a]	,142[a]	-,041
7. Life satisfaction	-,076[b]	,108[a]	,154[a]	,215[a]	,141[a]
8. L-Social support	-,029	,100[a]	,171[a]	,171[a]	,369[a]
9. A-Positive emotions	-,040	,112[a]	,123[a]	,172[a]	,149[a]
10. A-Negative emotions	,131[a]	-,008	-,039	-,015	,113[a]
11. L-Emotional	,168[a]	-,007	-,002	-,024	-,085[a]

Legend.

P: [a] = 0,01, [b] =0,05.

Due to missing values, N varied across measures: COPING N= 948 to 950; WELLBEING N= 1009 to 1058.

The correlation values between coping strategies (Table 3) show that they are all significantly and positively associated with each other, but the strongest associations are between Avoidance and Transcending Orientation, and between Problem Orientation and both Positive attitude and Social support.
As regards to what extent coping is associated with wellbeing, the obtained values overall indicated that coping strategies are reflected in well being indicators. The strongest observed relationships were: Avoidance was associated with GHQ-Psychological Health, in the negative direction, and with Negative emotions and Emotional Loneliness in the positive one; Problem Orientation was associated with all indicators, except for Negative emotions and Emotional Loneliness; seeking Social support was significantly associated - except for GHQ-Psychological Health - with all wellbeing indicators, especially L-Social support, i.e., the subjective perception of degree of loneliness from a social viewpoint; finally, both the Transcendent Orientation and Positive Attitude strategies were significantly and positively related to the positive indicators of wellbeing, but with low association values.

3.2 Coping and well-being as a function of age and sex.

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To test whether coping and wellbeing differed in males and females at different ages, that is, whether there were differences associated with age and sex groups, two MANOVAs were performed respectively on Coping and on Wellbeing, with Age (5 age groups) and Sex as between-subject variables, and respectively Coping (5 strategies), and Wellbeing (6 measures) as within-subject factors. The obtained results were later further analyzed in two sets of ANOVAs.

3.2.1 Coping. The MANOVA results showed significant multivariate effects for Coping (F 703,82[a], df 4, 935), as well as for the interactions Coping by Age (F 3,34[a], df 16, 3752), Coping by Sex (F 4,23[a], df 4, 935), and Coping by Age by Sex (F 4,24[a], df 4, 935). No between-subject main effects were significant. The strong multivariate effect of Coping is of course related to the mean ratings obtained for each coping strategy (see Table 2), with Avoidance and Transcendent Orientation being used by the sample significantly less frequently than the other three coping strategies, as previously reported.

A few group differences emerged in the results obtained in a series of ANOVAs, with Age (5 age groups) as between-subject variable, and Sex as a covariate. Specifically, Age was significant for Avoidance (F 3,21[b], df 4, 942), Problem Orientation (F 4,41[c], df 4, 942), and Transcendent Orientation (F 5,15[a], df 1, 942). Inspection of mean ratings in relation to Age showed that males' greater use of Avoidance occurred especially from 17 years onward, that preference for Problem Orientation was lowest at 17-18,6 years of age, and highest in the oldest age group, i.e., the young adults, and that preference for Transcendent Orientation was instead highest in the youngest age group, and lowest in the young adults. Sex was significant for Avoidance (F 11,44[a], df 1, 942), higher in males than females, and for seeking Social support (F 7,85[b], df 1, 942), higher in females.

3.2.2 Wellbeing. The MANOVA results showed significant multivariate effects for Wellbeing (F 236,05[a], df 5, 994), as well as for the Coping by Age interaction (F 2,61[a], df 20, 3988). Sex obtained a marginally significant effect (F 2,99, *P* = ,08, df 1, 998), with males overall reporting higher ratings than females. Significant between-subject effects were obtained for the Age by Sex interaction (F 3,07[b], df 4, 998). Inspection of mean ratings showed that sex differences were larger in the 15,6-17,0 age bracket, with boys reporting higher scores than girls. As it was the case for Coping, the large effect for Well-being was evident in the mean ratings obtained for each wellbeing indicator (see Table 2), with Negative emotions and Emotional loneliness being reported by the sample significantly less frequently than the positive wellbeing measures.

The results obtained in the performed ANOVAs, with Age (5 age groups) as between-subject variable, and Sex as a covariate, showed a few significant sex and age differences. Specifically, Age was significant for the following indicators: GHQ-Psychological health (F 9,20[a], df 4, 1002), lowest in the three 'middle' age groups, i.e., from 15,7 to 20 years; Life satisfaction (F 3,29[c], df 4, 1002), similarly to GHQ-Psychological health, was highest in the two extreme age groups, i.e., at 14-15,06 and 20-21 years; finally, L-Social support (F 3,11[b], df 4, 1002) increased from 14 years to 18,06, then dropped somewhat at 18,7-20, to increase again in the oldest group.

Table 4. Final linear regression models of Coping strategies. Standardized Beta coefficients, and explained variance (R^2) in relation to well-being variables

	GHQ Psych. Health	Positive Affect	Life Satisfact.	L-Social Support	L-Emot. Lonelin.	Negative Affect
	B	*B*	*B*	*B*	*B*	*B*
Sex[a]	-.02	.03	-.07[c]	-.05	.04	.02
Age[b]	.03	.01	-.02	-.03	.03	.05
C-Avoidance	-.28[a]	-.15[a]	-.21[a]	-.18[a]	.26[a]	.19[a]
C-Social support	-.09[b]	.10[b]	.08[c]	.37[a]	-.12[b]	.13[a]
C-Positive Attitude	.07	.03	.05	.08[c]	-.02	-.11[b]
C-Problem Orientation	.14[a]	.10[c]	.14[a]	-.03	.03	-.00
C-Transcendent Orient.	.14[a]	.14[a]	.14[a]	.09[b]	-.11[b]	-.09[b]
R^2	,091	.059	.085	.162	.056	.046

Legend

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P: [a] = 0,001, [b] =0,01, [c] =0,05 .

[a] Gender categories were: (1) male; (2) female; [b] Age categories were 5, from (1) 14-15,6 years to (5) 20-22 years (see Table 1).

3.2.3 Do coping preferences predict wellbeing? As earlier stated, relationships among the tested variables were assessed in linear regression analyses, with each well-being outcome as a dependent variable in turn, controlling for gender and age effects, entering gender and age categories in the first step of the regression, and adding coping strategies in the second step. The main results - Standardized Beta coefficients, and explained variance (R^2) - of the final linear regression models (all significant at P = .000) of coping strategies in relation to wellbeing variables are reported in Table 4. The results indicated that Avoidance, Transcendent Orientation, seeking Social support, and Problem Orientation are, in decreasing order of importance considering their Beta weights, quite crucial in predicting wellbeing. Somewhat surprisingly, Problem Orientation was not one of the most predictive strategies. A Positive attitude strategy was generally irrelevant, with the exception of protecting from feeling Negative emotions. The results also showed that Sex and Age are quite irrelevant too in well-being prediction - the exception being a weak role of sex in explaining Life satifaction. Importantly, the results showed that preferences for coping strategies tend to explain some well-being indicators more than others. Notably, the results showed a very important role of coping in the perception of Social loneliness, especially in terms of employing the active seeking-Social-support strategy, and in the perception of one's own Psychological Health and Life satisfaction.

4. CONCLUSION

The reported study aimed to assess adolescents' usage and preference for various coping strategies, and to obtain a better understanding of whether coping preferences are associated with psychosocial well-being, as measured by a broad, extensive set of psychosocial health indicators. The results that were reported in the previous sections on the whole supported the study hypotheses.

First of all, results showed that coping preferences (as measured by the frequency with which a given strategy is employed) are, overall, reflected in the well-being levels adolescents experience. More specifically, the hypothesis that coping preferences are reflected in young people' well-being was supported by the correlational data as well as by the regression analyses results.

However, the results also showed that usage of coping strategies is differentially associated with well-being, that is, is significantly associated especially with a specific aspect of well-being, and/or its predictor weight varies across well-being aspects. Specifically, results showed that Avoidance, as a negative predictor, and seeking Social support and Problem Orientation as positive predictors, significantly associated with, and predicted, most or all well-being indicators. Vice versa, Transcendent Orientation, and more so Positive Attitude, were strategies that seemed to be generally of lesser importance, or had an important role for a specific well-being aspect – e.g., Transcendent Orientation was relevant for all well-being predictors but with a lesser weight than other coping strategies; Positive attitude had its strongest role in 'protecting' adolescents from feeling Negative emotions. Thus, the results overall showed that preferences for coping strategies do influence various well-being aspects, such as their very important role in participants' perception of Social loneliness, Social support and Psychological health, but also showed that coping preferences are important in explaining some well-being indicators more than others, witness the strong influence of the active seeking-Social-support strategy in the perception of one's own Social support, or the strong association of Avoidance with the perception of one's own Psychological Health, Life satisfaction, and Emotional loneliness.

The results moreover showed that Sex and Age are per se irrelevant as predictors of well-being. Results showed in fact a weak role of sex in explaining Life satisfaction: though males and females did not differ much in their well-being subjective perceptions, males showed a somewhat greater propensity to convey a 'happy and healthy' self-image than females, in line with prescribed, gendered norms on 'how to be' if you are a male.

Likewise, the results only in part confirmed the **age-differences hypothesis,** namely that **an increase in age** would be linearly associated with an **increase in wellbeing**. The trend that seemed to emerge was on the contrary u-shaped: the very young and the oldest seemed to fare better than those who are 'right into the adolescence period'.

As regards coping preferences, the analyses of variance results confirmed instead, albeit partially, the hypothesis that **males and females** differ in their coping preferences. The observed differences can indeed be interpreted as referring to gendered norms on how to deal with problems, with girls and women preferring more than boys and men strategies that build on interpersonal relationships, especially seeking Social support, and boys and men preferring more than girls and women strategies that build on power and agency, such as Problem orientation. However, a limit of the study is that it did not explicitly assess the extent to which participants endorsed stereotypical gender norms, had internalized stereotypical gender roles. Further studies are thus needed to try and

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address in greater depth gender issues in relation to coping, again possibly relying on methods (e.g., use of gendered- and ungendered scenarios) that could allow for such greater understanding.

The picture that emerged as regards age differences in coping preferences is complex. The results showed that the use of Avoidance, a strategy that is often not very functional, increases with age, taking the place, so to speak, of a lesser recourse to Transcendent Orientation; this increase in Avoidance usage is however coupled with a greater use of Problem Orientation, a strategy that is usually a very functional one to face a problematic event or situation. These results seem to indicate that older adolescence and young adulthood are the development periods faced with the greatest uncertainty in how to best cope.

The study hypothesis was that coping preferences change with time. That is, from early adolescence to late adolescence and young adulthood it was expected that coping preferences become better suited to deal with challenges and problems the person faces. Instead, the observed changes did not occur as a linear function of age increase, in the expected direction of greater functionality of adopted strategies– e.g., Avoidance was expected to decrease with age. The results did show some age differences in the preference for this or that strategy, but age-related preference trends varied mostly according to which specific strategy was considered. These age-related results might be best interpreted considering on the one hand the *specific context* (situation, problem) an adolescent faces and has to respond to, and on the other hand the *repertoire of coping strategies* he/she can rely on at a given moment in his/her developmental history - thus including his/her experience with (and thus knowledge of) the outcome(s) that the usage of a given strategy had in the past. Thus, faced with problem *Px*, an adolescent will use strategy A at time *t1* in his/her development, but maybe use strategy B at time *t2.* Likewise, faced with problem *Py* at time *t1*, the adolescent might use both strategies A and B, provided he/she already masters such strategies and his/her experience with them is positive. The results, therefore, seem to suggest, I think, that to really understand coping usage and preferences we need to rely on more complex hypotheses, i.e., on hypotheses that take into account both the context of strategy-use, and the personal developmental history. Indeed, a limit of this study (and of most similar ones in the literature) is that strategy use is assessed in a vacuum, rather than in real contexts or, to the very least, in relation to specified contexts – as is the case with studies that use a scenario method. In sum, future studies are likely to better assess and understand age trends if strategy knowledge and use are measured in more ecologically valid manners.

In conclusion, the study allowed us to obtain data that can further inform our understanding of coping in adolescents and its relationship with well-being, as was its aim - including satisfying the need to collect data on a variety of national groups. On the other hand, the complex picture that emerged from the study results highlights new and old questions about measurement issues, adequacy of the theoretical models and hypotheses, and about age and gender differences and 'effects' on coping that future studies need to address more in depth and with more refined methods, including more ecologically valid and longitudinal ones.

Disclaimer: - This manuscript was presented in a Conference.

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