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GENDER DIFFERENCES AND SIMILARITIES IN ADOLESCENTS' WAYS OF COPING

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Various factors have an influence on which coping strategies are mobilized under specific circumstances, among others, age and gender. The present paper focuses on the interrelationships between the ways of coping and some health-related variables in adolescence. Data were collected among secondary school students (n = 1039) in Szeged, Hungary. Factor analysis of the shortened and adapted version of the Ways of Coping Questionnaire gave a four-factor solution: passive coping, problem-analyzing coping, risky coping, and support-seeking coping. Passive and support-seeking ways of coping were more common among girls, however, this latter way of coping proved to be a more significant correlate of psychosocial health among boys. Both among boys and girls, passive and risky coping factors played a negative role, and problem-analyzing and support-seeking coping factors played a positive role in psychosocial health. Findings suggest that maladaptive coping and psychosocial health problems might form a vicious circle in which risk-taking as a way of coping might play a central role in adolescence. When adolescents dispair of their problems, they often use drugs, smoke, or drink alcohol. They perceive it, however, rather as a form of risk-taking or sensation-seeking than a way of coping. That is why they do not reckon with its harmfulness and future consequences.

There is a growing evidence that the ways of coping with stress affect not only the mental health but the physical and social well-being as well (Wheaton, 1985). Coping encompasses the cognitive and behavioral strategies which individuals use both to manage a stressful situation and the negative emotional reactions elicited by that event. According to Folkman et al. coping was defined as the person's cognitive and behavioral efforts to manage (reduce, minimize, master, or tolerate) the internal and external demands of the person-environment transaction that

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is appraised as taxing or exceeding the resources of the person (Folkman, Lazarus, Dunkel-Schetter, Delongis, & Gruen, 1986a).

A great deal of research effort has been invested in the identification of the basic dimensions of coping. Coping strategies applied by different people are characterized by a great variety of ways of coping. Researchers usually followed factor analysis which allowed them to identify a smaller number of basic dimensions. Among others, the factor analytical study of Amirkhan led to the distinction of three dimensions: problem solving, seeking social support, and avoidance (Amirkhan, 1990). Endler and Parker also arrived at three dimensions and labeled them as task-oriented coping, emotional-oriented coping, and avoidance-oriented coping (Endler & Parker, 1990). Folkman et al. suggested that coping has two major functions and there are two basic dimensions, that is, problem-focused and emotion-focused coping. They identified eight coping strategies using the Ways of Coping Questionnaire, among which two were identified as clearly problem focused (confrontive coping and planful problem solving), five clearly emotion focused (distancing, self-controlling, accepting responsibility, positive reappraisal, and escape-avoidance) and one with mixed function (seeking social support) (Folkman et al., 1986a). Although the outcomes of factor analyses have inconsistencies depending not only on the method of factor analysis but also the characteristics of the study sample, yet it is possible to infer some consensus (Stroebe & Stroebe, 1995). There seem to be only few basic dimensions which emerge along the line that can be labeled by the following pairs of dimensions: problem focused vs. emotion focused, approach vs. avoidance, adaptive vs. maladaptive, and support-seeking vs. dependent.

Various factors, for example demographic, personal, sociocultural, and environmental, have an influence on which coping strategies are mobilized under the specific circumstances. Age and gender, among others, are crucial sociodemographic factors affecting the coping pool and coping-health interactions (Feldman, Fisher, Ransom, & Dimiceli, 1995). A number of studies argued that women and men have differences in both quantity and quality of psychosocial health problems, and women are more prone to depression (Compas, Orosan, & Grant, 1993). This latter may be explained by the gender differences of the ways of coping (Nolen-Hoeksema, 1991). Women have a higher tendency to respond to depressed mood with a high level of attention. These different response styles may grow out of socialization processes that contribute to gender stereotypes. Although boys and girls both increase their use of emotion-focused coping strategies during early adolescence which girls continue in late adolescence, boys tend to use more and more emotion-distracting coping. Distracting problems as a way of coping may have the additional effect of disengaging males from interpersonal stress to a greater extent than girls.

Beside gender, literature suggests that age is an important influence on the ways of coping (Feldman et al., 1995). Adolescents and adults tend to occupy different social roles. Adolescence may be characterized

as a stage during which both social roles and coping skills undergo dramatic changes. Moreover, adolescence is a period between childhood and adulthood when the individual is confronted by a series of developmental challenges, for example, achieving growing independence from the family or fulfilling new social roles with peers. Thus a special characteristic of adolescence is an increasing need for autonomy. There is a debate whether problem behaviors, such as drug abuse, cigarette smoking, or problem drinking, are related more to sensation-seeking or maladaptive coping strategies. As some of the literature suggests, adolescent risk-taking should be viewed more as an adaptive experimentation than an abnormal response to stress with damaging implications (Erikson, 1968; Piko, Barabas, Markos, 1996). Self-destructive behaviors, however, are not always linked with being 'adventurous' and the self-mutilation of adolescents (Frydenberg, 1997).

The incidence of stress-related problems in teenagers has increased markedly over the past decades (Elkind, 1984). An evidence of youth stress is shown in the rising incidence of depression (Ehrenberg, Cox, & Koopman, 1990) or eating disorders such as anorexia nervosa (Humphrey, 1989). That is why there is a growing necessity to examine how adolescents try to deal with problematic situations and to identify whether these coping strategies have an effect on their psychosocial health. Although much research effort has been invested in the examination of the role of coping in adolescent psychopathology, less research focuses on the relationship between coping and psychosocial health. This paper focuses specifically on the gender differences of the interrelationships between the ways of coping and some health-related variables in adolescents. The following research questions have been the focal points of the study:

1. What are the most frequently used ways of coping in an adolescent population, that is, is this coping structure different from the adult dimensions of coping?
2. Are there gender differences in which dimensions of coping are more important correlates of psychosocial health in adolescents? Is age as a variable an important correlate of the ways of coping?

Subjects and Methods

Data were collected in conjunction with a research on adolescent health and coping among secondary school students in Szeged, Hungary. The potential number of students participating in the study was 1200. A representative sample has been chosen. Of 1200 questionnaires sent out, 1039 were returned after 1-4 weeks, giving a response rate of 86.6%. The age range of the students was 14-19 years, 474 (45.6%) boys and 565 (54.4%) girls.

A self-administered questionnaire was used as a method of data collection. Written parental consent had been asked before collecting data. A standardized procedure of administration was followed. Secondary

school teachers distributed the questionnaires to students prior to classes after a brief explanation of the objectives of the study and instructions how to fill in the questionnaires. Similar information was attached as a cover page in each questionnaire paper. The questionnaires took 35-40 minutes to complete. The completed questionnaires in closed envelopes were collected in a mailbox of the school.

Data obtained from the survey included various items on coping, psychosocial health, and other health-related variables and health risk behaviors.

Ways of Coping

A shortened version of the Ways of Coping Questionnaire was used to assess coping strategies (Folkman et al., 1986a). This method consists of 68 items describing a broad range of behavioral and cognitive coping strategies that an individual might use in a specific stressful situation. Respondents were asked: "Think of hard life events of yours. Specify how much the following activities characterized your situation?" Responses were coded as very much like my experiences (3), much like my experiences (2), somewhat like my experiences (1), and not at all my experiences (0). The items were classified into two basic categories: problem focused and emotion focused. As we thought the full 68-item scale might be too lengthy in a multipurpose survey, a 14-item scale was adopted from the Ways of Coping Questionnaire including items on the different dimensions identified by Folkman et al. followed by factor analysis. As a first in evaluating the psychometric properties of the scale, the test-retest reliability was assessed over a 2-week interval. When assessing reliability, we drew a random subsample of 30 male and 40 female respondents. The analysis of the reliability of the single items was based on cross-tabulations of answers given in the original and the second data collection. The weights given to the observed and expected frequencies were used to calculate kappa. The kappas were found in the range 0.68-0.72. The validity of an instrument is more difficult to assess. One criterion is that the instrument items should correspond to the dimensions of the original questionnaire. Therefore, we have chosen the questions based partly on the items of the original factor structure (Folkman et al., 1986a) and partly on the factor structure of the Hungarian version of the Ways of Coping Questionnaire which showed a factor pattern matrix similar to the original dimensions in the study of a national representative sample (Kopp & Skrabski, 1996).

Psychological Well-Being

The aim of this measure was to collect information on the general well-being of the adolescents during the past 12 months. The well-being rating scale was an internal level variable that was coded from high level of distress to high level of well-being. The 6-item scale was adopted and modified from the Langner index by Ross and Hayes (1988). Respondents were asked the following six items: "During the past 12 months, how often have you 1. Had trouble sleeping, 2. Felt irritable, 3.

Been in low spirits, 4. Felt happy, 5. Felt energetic, 6. Felt optimistic?" Responses were coded as nearly always (4), often (3), sometimes (2), seldom (1), and never (0) for Items 1-3 and inversely for Items 4-6. The final scale was coded from 0-24. Cronbach's alpha was 0.78.

The Frequency of Psychosomatic Symptoms

The aim of this measure was to obtain information on the frequency of these symptoms during the past 12 months (Piko, Barabas, & Boda, 1997). The following self-reported symptoms have been investigated: back pain, tension headache, sleeping problems, chronic fatigue, stomach pyrosis, tension diarrhea, and palpitation. Adolescents were asked: "During the past 12 months, how often have you had a back pain?" . . . etc. Responses were coded as often (3), sometimes (2), seldom (1), and never (0). The final scale was coded from 0-21. Cronbach's alpha was 0.75.

Self-Perceived Health

Self-perceived health was measured by a simple question concerned with how adolescents would assess their own health compared to that of their peers. The response could be ranked by 4 items and were coded as poor (1), fair (2), good, (3) and excellent (4).

Acute and Chronic Illness Episodes

Respondents were asked the following question: "Did you have acute or chronic illness episodes with which you contacted a physician during the past 12 months?" The variables were measured by the number of days which limited their activities because of acute and/or chronic illness.

Health Behavior

The questionnaire items included sports activity as a component of health behavior. Participation in sports varied from the exemption from physical education at school to sports competitions. Sports activity was also measured during the past 12 months. The answer categories were the following: exemption from physical education at school (0), just at school (1), light extra activities (2), medium extra activities (3), high extra activities (4), and sports competitions (5).

Data Analysis

SPSS for MS WINDOWS Release 6.0 program was used in the calculations and the minimum significance level set to 5%. Factor analysis with varimax rotation was conducted to reduce the number of items to the main functional components. Orthogonal factors were chosen to identify the main dimensions of the ways of coping. The number of components was decided based upon the conventional criteria to stop extracting factors (i.e., eigenvalues greater than 1.0 and a satisfactory scree test). Significant differences of the means have been detected by *t* test. The correlation between the saved factor scores and other health-related variables was also

examined. As our earlier data indicated significant gender differences in the means of health-related variables (Piko, 1996), correlations have been calculated for boys and girls separately.

Results

Factor analysis with varimax rotation was conducted which gave a four-factor solution. Eigenvalues being above 1 were applied as the point to stop extracting factors, thus the first four factors had eigenvalues greater than one in this analysis. Variance explained was 46.6%. Varimax rotation of the four principal components took 14 iterations to produce orthogonal factors to identify the dimensions of the ways of coping among adolescents. Table 1 shows the matrix of the factor structure where the

Table 1

Factor Analysis of the Short Version of the Ways of Coping Questionnaire

	Factors with Eigenvalues			
Questionnaire Items	Factor 1 (2.2)	Factor 2 (1.7)	Factor 3 (1.4)	Factor 4 (1.2)
	Factor loadings			
I made a plan of action and followed it	0.20	**0.69**	-0.10	0.11
I did something which I didn't think would work but at least I was doing something	0.13	0.06	**0.51**	0.03
Criticized or lectured myself	**0.51**	0.14	0.24	0.08
Tried to look on the bright side of things	**-0.40**	**0.52**	0.25	0.15
Accepted sympathy and understanding from someone	0.12	0.06	-0.02	**0.81**
Changed or grew as a person in a good way	-0.16	**0.55**	-0.03	**0.41**
Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.	0.05	-0.14	**0.67**	0.004
Took a big chance or did something very risky	-0.24	0.14	**0.69**	-0.01
I asked a relative or friend I respected for advice	0.36	0.08	0.13	**0.54**
Kept others from knowing how bad things were	**0.40**	0.32	0.28	-0.33
Came up with a couple of different solutions to the problem	0.28	**0.67**	-0.03	-0.17
I prayed	**0.48**	0.11	-0.11	0.07
Wished that the situation would go away or somehow be over with	**0.70**	-0.03	0.10	0.16
Took it out on other people	0.35	-0.19	**0.48**	0.02

Note. Numbers in bold face indicate factor loadings >0.40 (N = 1039).

factor loadings greater than 0.4 are signed as bold to help with a clear interpretation of the coping factors.

Factor 1 was labeled as 'passive' coping including items that expressed the wish of a person that the situation would go away, or a tendency to criticize oneself, or to pray to get through the problem. Using these ways of coping one usually fails to look on the bright side of things.

Factor 2 was labeled as 'problem-analyzing' coping. This factor emphasizes problem solving by analyzing it, for example, making a plan of action, coming up with a couple of different solutions. The process of problem analysis is rather an optimistic and adaptive way of coping: the person tries to look on the bright side of things and changes in a good way.

Factor 3 was labeled as 'risky' coping which was dominated by items on doing something very risky, trying to drink, eat, smoke, or use drugs or medication, or simply 'taking it out' on other people.

Factor 4 was labeled as 'support-seeking' coping which emphasizes the acceptance of sympathy or understanding from someone. Moreover, support-seeking coping is rather an active process when a person asks a relative or friend for advice. This way of coping also supports a person to change or grow in a good way.

Factor scores were saved and applied as coping factors in the following analyses. Significant differences exist between the means of boys and girls determined by *t* test in terms of passive coping ($p < 0.001$) and support-seeking coping ($p < 0.01$), that is, both were more common among girls (Table 2).

Table 2

Means and Standard Deviations of Coping Factors by Gender ($n = 1039$)

Saved factor scores	Boys ($n = 474$) *Mean*	*SD*	Girls ($n = 565$) *Mean*	*SD*	*t* test: two-tailed significance
Passive coping	-0.34	0.99	0.27	0.91	$p < 0.001$
Problem-analyzing coping	-0.005	1.0	0.01	1.0	$p > 0.05$
Risky coping	0.06	1.0	-0.06	1.0	$p > 0.05$
Support-seeking coping	-0.10	1.0	0.07	1.0	$p < 0.01$

Correlation coefficients were calculated to test the relationships between coping factors and health-related variables. Table 3 presents the correlations for boys ($n = 474$) and girls ($n = 565$) separately.

Both among boys and girls, passive coping and risky coping factors played a negative role, and the problem-analyzing and support-seeking coping factors played a positive role in psychosocial health. Psychological well-being correlated positively with the problem-analyzing and support-seeking factors and negatively with passive coping and risky coping in both sexes. The low level of psychological well-being was particularly related to passive coping in both sexes, and to risky coping in

Table 3

Correlations Between Coping Factors and Health-Related Variables by Gender

BOYS (n = 474)	Passive coping	Problem-analyzing coping	Risky coping	Support-seeking coping
Age	-0.12**	0.04	0.05	-0.13***
Psychological well-being	-0.31***	0.18***	-0.16***	0.37***
Psychosomatic symptoms	0.37***	0.05	0.30***	-0.36***
Self-perceived health	-0.26***	0.15**	-0.07	0.13**
Acute illness episodes	-0.003	-0.04	0.13**	0.07
Chronic illness episodes	0.08*	0.02	0.09*	0.07
Sports	-0.17*	0.03	-0.03	0.18**
GIRLS (n = 565)				
Age	-0.02	0.10*	0.06	-0.13**
Psychological well-being	-0.32***	0.21***	-0.27***	0.11*
Psychosomatic symptoms	0.37***	-0.02	0.29***	-0.07
Self-perceived health	-0.29***	0.10*	-0.15***	0.06
Acute illness episodes	0.06	0.03	0.06	0.01
Chronic illness episodes	0.003	0.01	0.006	-0.02
Sports	-0.21**	0.06	0.02	0.22**

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

girls. Support-seeking coping factor was a significant correlate of psychological well-being among boys. The frequency of psychosomatic symptoms as an important indicator of psychosocial health was negatively influenced by passive coping. Problem analysis as an adaptive way of coping showed a beneficial connection with both psychological well-being and the frequency of psychosomatic symptoms. Although risky coping proved to be a significant correlating factor for the frequency of psychosomatic symptoms among girls as well as boys, the support-seeking factor was associated with the psychosomatic symptom score and self-perceived health just among boys. The correlation coefficients showing the relationships between support-seeking coping and health-related variables proved to be noticeably stronger among boys than girls.

The acute and chronic illness episodes were far less influenced by the ways of coping comparing with the indicators of psychosocial health. Although the coping factors were not significant correlating variables for illness episodes among girls, slight but significant positive correlation could be detected between risky and passive coping, and illness episodes.

Participation in sports which can be viewed as a health behavior, correlated negatively with passive and positively with support-seeking coping in both sexes.

Boys have a decreasing tendency with growing age to take up more passive and support-seeking ways of coping. This latter can also be noticed among girls; furthermore, there is a rising tendency among them to take up more problem-analyzing methods of coping.

Discussion

The main goal of the present study has been to investigate the coping structure in an adolescent population and to detect the possible gender differences in which dimensions of coping are more relevant correlates of psychosocial health. Factor analyzis gave a four-factor solution: passive coping, problem-analyzing coping, risky coping, and support-seeking coping. These coping factors mirror fairly the basic dimensions of the ways of coping found in other research: Amirkhan identified three dimensions of coping strategies using factor analysis: problem solving, seeking social support, and avoidance (Amirkhan, 1990). Two of these dimensions are similar to what I found, that is, problem solving or problem-analyzing coping and seeking social support or support-seeking coping. The third component was labeled as avoidance by Amirkhan which can also be found in the research done by Folkman, Lazarus, Gruen, & DeLongis, (1986b) as escape-avoidance. This latter had items like "Wished that the situation would go away or somehow be over with" or "Tried to make myself feel better by eating, drinking, smoking, using drugs or medication." My results suggest, however, that the escape-avoidance may have two subdimensions which can be relevant in adolescence: passive coping and risky coping. Although, both have certain elements of escape or avoidance from the problematic situation, I assume that they might have different influence on psychosocial health. Passive coping is rather characterized by wishful thinking or praying to get through the problem, whereas risky coping consists of risk-taking behaviors as drinking, eating, smoking, using drugs, or doing something very risky.

One of the research questions has been to investigate the gender differences in adolescents' ways of coping. There were significant differences between the means of boys and girls in terms of passive and support-seeking coping factors, that is, both were more common among girls. No differences could be detected between the means of problem-analyzing and risky coping factors. While the first two findings are consistent with previous results, literature suggests that boys usually are more problem-oriented, using more direct actions to solve their problems (Folkman & Lazarus, 1980; Stone & Neale, 1984), and they are generally perceived as being more at risk of substance abuse (Petersen, Sarigiani, & Kennedy, 1991). This is because males and females have been socialized into different gender roles, with greater emphasis being placed on autonomy and independence for boys and social relations for females (Gilligan, 1982). Differences in self-concept and coping actions were found to be consistent with traditional sex-role stereotypes, for example, the masculine role has been described as 'instrumental' emphasizing

rationality and independence, while the feminine role has been accepted as 'expressive' characterized by supportiveness and emotional orientations (Bem, 1974). Thus they learn that there are different expectations of them and receive reinforcement for different coping actions, for example, boys rather experience the changes as a challenge and develop an active coping strategy, while girls often withdraw and take a resigned attitude (Petersen et al., 1991). Females are more likely to assess a situation more threatening and perceived themselves more negatively and pessimistically (Bunnel, Cooper, Hertz, & Shenker, 1992; Gjerde & Block, 1991). Likewise they use more strategies related to wishful thinking than males (Frydenberg & Lewis, 1993) which could also be found in my study as a higher occurrence of passive ways of coping among adolescent girls.

My results suggest that even while girls use passive and emotion-oriented ways of coping more often, they turn to rational problem-solving methods as well, contrary to the stereotypes about girls and boys. Frydenberg and Lewis also reported in a study using an adapted version of the Ways of Coping Checklist that female students use as much problem-focused coping as do male students, suggesting that females and males deal with problems in much the same way (Frydenberg & Lewis, 1991). In contrast to previous findings that risk-taking as a coping activity was generally regarded as a stereotypic male behavior, there were no significant differences between the means of risky coping factor by gender. This is, however, consistent with a prior research indicating that male and female adolescents just slightly differ in the occurrence of substance use (Piko, 1996).

Among the research questions, we aimed at investigating the relationship between age and the ways of coping in boys and girls. Literature suggests that there is a difference in how people cope at different stages in life; furthermore, there are clear indications that older adolescents cope differently from younger adolescents (Frydenberg & Lewis, 1993). We found that there was a tendency with growing age to take up fewer support-seeking ways of coping in both sexes. This feature can be viewed as a characteristic of the social interactions of adolescents including a higher need for autonomy. Similarly, Farrell's study found that younger students (12 to 13 years) used more social support, expressed more feelings of not coping, took more social actions, ignored their problems, sought more professional help, and in general used more reference to others as a coping style than older adolescents (16 to 17 years) did (Farrell, 1993). Research findings also show that older students report relatively greater use of tension-reducing strategies such as taking drugs, drinking, and so on, and in general use less productive strategies than younger students (Frydenberg & Lewis, 1993). My results are not consistent with this finding as age does not correlate with risky coping. Because neither gender nor age is a correlating factor for the use of risky coping, risk-taking seems to be a 'universal' way of coping in the adolescent population investigated.

Finally, we aimed at investigating the relationship between adolescents' ways of coping and their psychosocial health. Correlation analyses showed that both among boys and girls, passive and risky coping factors played a negative role, and problem-analyzing and support-seeking factors played a positive role in psychosocial health, particularly in psychological well-being and psychosomatic status. Although higher engagement in risky ways of coping was related to a poorer psychosocial health status in both sexes, participation in sports was a positive correlate, supporting the results of Ingledew and Hardy, in which health behaviors, such as exercise, served coping functions (Ingledew, Hardy, Cooper, & Jemal, 1996).

An important gender difference is that support-seeking coping proved to be a less significant correlate of psychosocial health among girls, though social interactions and social supports were more central as a coping method for them. The support-seeking way of coping was related to a better psychological well-being in both sexes, however, it correlated significantly with psychosomatic symptoms and self-perceived health only in boys. Social support is the single strategy that is consistently reported as being used more frequently by females than males as a way of coping. However, they may use it in a different way (Rauste-von Wright, 1987). Girls use social support more readily and directly. Boys seem to have less trust and a greater reluctance to turn to others as a source of support and try to manage their conflicts by themselves. Literature also suggests that females may be better social support resources and they are better in providing as well as receiving support though they usually are less satisfied with the obtained levels of support (Vaux, 1985). Despite the fact that social support is generally used more by girls, boys may benefit more from this strategy of coping (Parsons, Frydenberg, & Poole, 1996). Furthermore, they may benefit from different dimensions of social support: Girls more frequently use social support as emotional and tension-reducing help, while boys emphasize more rational-material type of support (Piko, 1998).

As a summary, we can conclude that there are some gender differences as well as similarities in adolescents' coping. While girls reported more passive and support-seeking ways of coping, this latter proved to be a more significant correlate of psychosocial health among boys. Unexpectedly, there were no differences between the means of risky coping factor by gender. Moreover, this factor played a negative role in adolescents' psychological well-being and psychosomatic status in both sexes.

My findings suggest that risky coping may have a special role in the coping and health interactions in adolescence. Maladaptive (i.e., passive and risky) coping and psychosocial health problems might form a *vicious circle* in which risk-taking as a way of coping might play a central role. These relationships can be viewed more bilateral than cause and effect. Risky coping may act as a 'universal' way of coping in adolescence as neither age nor gender is a correlate of this coping factor. This way of coping has elements not only of drinking, using drugs or smoking but a higher tendency to take risk and seek sensation as well. When

adolescents despair of the problems that they face are too difficult to solve, they often use drugs, smoke, or drink alcohol. They perceive and evaluate it, however, as a form of risk-taking or sensation-seeking rather than as a way of coping, that is why they do not reckon with its harmfulness and future consequences. As adolescents continue to learn coping skills, health education programs going on in secondary schools should take into account that risk-taking or sensation-seeking can act as a way of coping and concentrate on developing adaptive ways of coping.

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