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Summary of the doctoral thesis

ANALYSIS OF HEALTH BEHAVIOUR FROM THE PERSPECTIVE OF SELF-APPRECIATION, COPING MODALITIES AND AGRESSION AMONG ADOLESCENTS

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CONTENT OF THE THESIS

SUMMARY STRUCTURE

KEYWORDS: mental and physical health in adolescence, health behavior, protective and risk factors, self-appreciation, coping, aggression, socio -cultural context.

Introduction

Promoting mental and physical health and education on healthy lifestyle has become a very important aspect in both psycho-sociological studies and in health policy worldwide (Comstock, 2008; Georgiou and Stavrinides, 2008, McGee and Baker, 2002, Natvig et al. 2001). Multitude of social change and economic crisis proved a significant impact on the lifestyle of adolescents, whilst providing timeliness and novelty of the research. In our research, we focus on general issues related to mental health protection, involving the analysis of individual variation and different aspects of social contexts in which they occur. Thus contributing to the scientific documentation of behavioral characteristics of adolescents in Romania, and the results provide important support points for revealing causality and predictions relating to the adoption of health behaviors by adolescents.

The originality of the research is to analyze the attitudes of adolescents' differentiated specifics regarding the expression of aggression, the self-esteem, and coping methods used. Interrelation between protective factors (regular physical activity, positive assessment of body image and weight control, appreciation of health and quality of life), risks of health (substance use, smoking and alcohol consumption), and the components of personality in terms of environmental factors (support and the presence of family members, education level of parents, social climate and perceived acceptability by teachers, school stress, entourage and time spent with peers of the same age) together outlines an overview of health behavior in a psycho-sociological interdisciplinary perspective.

In order to theoretically fundament our research, we will review the most important approaches, sociological and psychological ideas that can explain the concept of health and healthy lifestyle both at macro and mezo-social (structures and social institutions of health) and also at microsocial level (individual) (Martikainen et al., 2002).

So in exploring health behavior and the lifestyle of adolescents, through an interdisciplinary approach, we analyze the factors involved in maintaining the health of adolescents from a sociological perspective (socio-demographic differentiation by analysis of subjects such as sex and specific environment and livelihood), and we study their associations with individual psychological variables (by analyzing individual psychological characteristics such as self-assessment, ways of coping, showing aggressiveness).

The research makes a significant contribution to a better understanding of current social problems, the outlined risk and protective factors involved throughout the development of adolescent health behavior.

Moreover, provide important starting points for further research focused on the analysis of healthy lifestyles and prevention of adolescent risk behaviors. Specialists in developing prevention programs for health - risk behaviors will find consequential results that may help them in their work to beneficially influence personality development of adolescents and their effective adaptation to the social environment in which they live.

Chapter I.
The notions of health and health behavior in adolescence

Chapter 1 provides behavioral health approach to social problems, the impact of macro and micro factors on health and disease patterns. In this chapter, we detail through the theoretical and explanatory models covered, how living experience of the disease, with the disease in the population identifying causality. The chapter focuses on identifying specific interactions of risk and protective factors examined in research on adolescent health. It, furthermore, draws attention to those social components that affect positively or negatively the adoption of health behaviors.

Health behavior can be seen by the agreement between the daily behavior of adolescents and their values and attitudes about health conception that underlies behavior in the later lifestyle, even until adulthood (Rotariu and Iluț, 2006).

Recent international research approaches refers more often to the concepts related to health and the disease, namely healthy or unhealthy lifestyle of people (Currie, Roberts, Morgan and Smith, 2004).

Lifestyle will determine the health of young people, especially crystallized during childhood and adolescence. Under the influence of physical changes, psychological and social intense period of development characteristic of adolescence, are forming those attitudes and behaviors which proved to have a beneficial or a harmful impact on health.

Experts from the World Health Organization define health as containing „the ability to deal with physical, biological, psychological**,** and social stress, a state of complete physical, mental, and spiritual well being" (WHO, 1946, p.100). However, health is seen as a resource for living a productive life, and its deficiency can prevent life goals (WHO, 1946)[1]. Health will allow a person to be manifest in an efficient manner and degree differences in explaining health inequalities in people's ability to function.

Thus, the optimal social environment of adolescents includes the absence of disease and the presence of the well (Seligman and Csikszentmihalyi, 2000).

For general theoretical arguments of the doctoral research, we review some relevant explanatory models for our approach, showing the implications of various factors on health behavior (Jessor 1991, Betancourt and Flynn 2009, Cockerham 2010, Bardos 2011).

[1] Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19 June - 22 July 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. The definition has not been amended since 1948.

In our approach, we tried to capture the interrelation of personality factors and socio-cultural determinants in terms of the observed differences in health and risk behavior of adolescents.

Between personality factors we discussed self-appreciation, coping and the level of expression of aggression, as described and explained in models of Jesse (1991) by assessing self-perceptions and social support, in descriptions of Betancourt and Flynn (2009) by specific motivational, cognitive and emotional trends.

In terms of socio-cultural approach of health behavior influences were registered depending on the education level of parents, perceived emotional support from them and the offered behavioral patterns by age group (Jessor, 1991). Therefore, we integrate our research variables in specific social culture of teens highlighted in the models described by Cockerham (2010) and Bárdos (2011).

We reported our analysis to the systemic model of health behavior (after Bárdos 2011), describing the health behavior of adolescents as a form of conduct, implemented in a specific socio-cultural environment. It supports both individually (personality factors), and social influences (environmental factors) and by maintaining awareness of the need of health and prevention of disease. We tried the inclusion of these implications by developing a model sustaining, among other studies, that the individual health behavior involves personality factors, including self-assessment as essential for maintaining health (Trzesniewski et al. 2006), and are mediated by the used ways of coping (D'Zurilla et al., 2003, Remillard and Lamb, 2005). Furthermore, the expression of aggression may have a predictive role in the adoption of certain risk behaviors (Ostrowsky, 2010).

For an overview of national and international studies carried out and the results obtained from these, we used meta-analysis to develop a table in which we stressed, in particular, studies that focus on associations between self-esteem, coping methods, showing aggressiveness and protective factors of health (such as the body image satisfaction and regularity of physical activity) and health-risk factors (such as the prevalence and frequency of smoking, drug and alcohol, lifestyle characterized by lack of physical activity) (Rivas Torres and Fernandez 1995, Aszmann et al., 2003, Nemeth et al., 2007, Lowery et al., 2005, Ostrovsky 2010, Sabiston et al., 2007, Hurelmann and Richter 2005). However, we referred to representative studies to the literature, including results on socio-cultural contextual factors on health behavior in adolescents and school-aged children (HBSC, 2002, 2006, 2010).

Data from our study can be compared with those obtained under the international HBSC project (Health Behavior in School-aged Children), developed by the Regional Office for Europe of the World Health Organization (HBSC 2002, 2006)[2]. Thus, we get an objective view of the

[2] *Young people's health in context. Health behaviour in School-aged Children (HBSC) study: International report from the 2001/2002 survey*. WHO, Copenhagen.
Inequalities in Young People's Health. HBSC International Report from the 2005/2006 Survey. World Health Organization, Copenhagen.

population of teenagers surveyed in research based on the results already obtained regarding the Romanian population and that of other nations.

An important component of our research is to reveal the factors that influence the health and lifestyle of adolescents, respectively outline the key role of media and social determinants such as family, school and group membership. In our approach, we report on mentioned research, following particularities and changes in development and health-related behavior of all adolescents.

Chapter II

Analysis of factors affecting physical and mental health of adolescents

Chapter 2 is devoted to detailing protective psychosocial factors and risk of health behavior. From this point of view, it occupies a central role in the personality development of adolescents, with characteristics of family and group of friends. The school environment is analyzed mainly on skirmish situations and the role of aggressor or victim of teenagers involved.

2.1. Predisposing factors and health-risk factors

Demographic variables such as age, gender, or socioeconomic status show strong associations with performance by adopting health behaviors. Studies show that in general, one is younger, with good health and enjoy a high social support, along with a high level of education and low levels of stress, the more likely it is engaging in behaviors designed to protect and to improve health (Taylor 1991; Adler and Matthews 1994). Demography and socioeconomic status have traditionally been specific in efforts to describe and predict process developments related to child health (American Academy of Pediatrics, 2000; DiLiberti, 2000). Peirce et al. (2000) considers social status as the representative of a wide range of environmental characteristics associated with health socialization of children, to improve or, conversely, unfavorable on health.

Social factors, such as parental models, for example, prove important in inducing behavioral health from early periods of life. The influence of peers is important for the initiation of smoking (McNeil et al. 1988). Modeling of the family was found to be closely related to adolescents engaging in risky behaviors. Family structure, but especially relationships within them (parents and children), prove to be decisive with respect to the frequency of risk behaviors of adolescents. Family factors, and those related to the living space are in close associations with mental and physical health. Children who grow up in families with both parents showed a better health status. Studies have also shown that children in single-parent situation showed a trend to higher mortality rates, mental illness and physical injury than those supported by both parents (Hollander, 2003, Sales and Irwin Jr., 2009).

Studying health, Mirowsky and Ross (2003) have proposed to compare the levels of education of different social groups or social classes. The authors claim that control over their lives and the healthy lifestyle that accompany them cause a close link between education and health.

Personality factors play an important role in healthy exercise habits. Evidence in the literature emphasizes that personality traits are associated with health behavior and with the level health (Marshall and Biddle, 2001). Research indicates that psychosocial variables have a mediating role in health-related behavior.

Adolescence is characterized by assimilation and crystallization of values, is considered the period in which the behaviors' basis and health-related habits are formed, and they are developed and stabilized during subsequent periods of age. Consequently, studies on health behavior, and risk behaviors prevention programs will be often targeted during adolescence (DiClemente et al., 2009).

Furthermore, analysis of expression levels of aggression and its orientation towards the external environment or to themselves give us important data to study risk and health behavior. Based on researches, we argue that the relationship between health behavior and aggression still supports deeper study and analysis. It cannot be said that there is a causal relationship between poor health behavior adopted by teenagers and aggression expressed. Although in our study, we consider the expression of aggression as a personality factor, since the studied subjects were school-aged, we pay a special attention to the school environment and specific relationships between it is often expressed.

2.2. The contextual factors of health behavior

Although general associations between social factors and health are clearly proven, this relationship cannot be seen in terms of causality. Socio-economic factors are considered as distal causes and their effects are mediated by more proximal causes, such as are material living conditions, psychosocial factors related to health behavior and access to health and social resources (Currie et al. 2008). Variables related to child-rearing and education, such as age, education, occupation and income of parents are aspects of socioeconomic status in close association with health status and behavior regarding children. They strongly influence the health environment in which children develop by modifying aspects of the family environment, such as parent-child interaction (e.g. maternal education strategies, disciplinary techniques), parental opinions and attitudes, physical attributes (space, crowding, cleanliness, noise), organizing daily routine, regularity and predictability, care programs and the availability of food and other material resources (Holland et al., 2000). Studies also show that the level of education is one of the most significant aspects of social status, with strong impact on how children learn to care for their own health (Hupkens, Knibbe, and Drop Van Otterloo, 1998).

According to studies substantial influence of the educational methods used by parents on the development of adolescent development is increasingly evident.

Thus, adolescents raised in an authoritative atmosphere adopted consistently and with great frequency health protective behaviors and rarely engage in risky behavior comparing to those raised in non-authoritarian families (Davies et al., in DiClemente et al., 2009).

The results of Walker and Taylor (1991) show that children whose families have a low cohesion report more negative physical symptoms than those who grow up in families characterized by high levels of cohesion. Another interesting aspect of the research focused on the relationship between parent-child interactions, and children's health behavior is to analyze the quality of parent-child relationships. The degree of emotionality may explain individual differences in how children and parents respond to various situations, their beliefs on the causality of events, and how they interpret and act in certain situations (Dodge, 1991).

Parents' emotions expressing to play an important role in learning healthy behaviors and attitudes of children and effect generally all aspects of parent-child interactions in the socialization of health. Sense of safety and parent-child affection are closely related to communication dysfunctional symptoms, health behavior and limit their normal activities (Feeney, 2000).

However, the effectiveness of preventive action and behavior of parents affects healthy self-image and self-confidence in children. Ratner and Stettner (1991) suggest that cooperation between a parent and a child is essential for the internalization of the desired behaviors and learning in general.

Ortega et al. (2007) argue that different models of rules and values prevailing in society are found in schools, there are being present in social phenomena such as competition, social exclusion, malice or disappointments suffered from relations established between young people.

Adolescent pupils are living in a specific youth cultural sphere, determined by the regional specificities of the imposed family and peer norms. These environments influence both school performance and school quality relationships, and behaviors learned in schools, including those related to health. Unhealthy habits such as smoking, alcohol or drug level is an integral part of youth culture. The adoption of these risk behaviors is often the result of the influence of group membership, implemented on an age-specific vulnerability and development during the adolescence period (Andorka, 2006).

Studies (Sarason et al., 1990, Mirowsky and Ross, 2003; Albert-Lorincz, 2011) argue that a more objective treatment of adults or adolescents continues to warn of the consequences of their behavior is essential to change unwanted behaviors. It can also be very useful providing social support and increased prosocial behavior by reinforcing desirable behavior patterns.

Chapter III

The role of self-esteem, ways of coping and expressing aggression in behavior regarding the health of adolescents

Chapter 3 presents in detail the role of self-assessment, ways of coping adopted and the level of expression of aggressiveness of the studied population in trends of risk behaviors related to aging process. The chapter focuses the psychosocial aspects and development of attitudes towards health and illness. We argue that the studies presented, which analyzed personality factors show a significant impact on mental health through psychological mechanisms underlying them. However, these results are interpreted in the social context – family, school and friends – of the teenagers.

3.1. Particularities of development during adolescence in terms of health-related behavior

Biological factors, psychological and social changes affect adolescent health, exposing individuals to various risks and problems during the development process (Sarafino, 2011).

Adolescence has often been described as a time of tension and stress because teenagers try to negotiate their own identity. They are exposed to pressure from parents, peers and society to become a certain type of person, to carry out specific activities. Assessments and perceptions about themselves depend largely on self-esteem development, having a significant impact on mitigating the problems and difficulties faced by adolescents in an efficient adaptation (Piotrowski, 2010).

Personality factors have a stronger influence on the formation and development of positive health behavior, thereby shaping the lifestyle of adolescents. Studies in the field, and the latest researches from WHO, consider the impact of self-esteem, the adopted coping ways and the methods of expressing aggression, as being the most relevant issues for physical and mental health of adolescents (Currie, 2008). Self-image and general self-assessment are meant, particularly important for the formation of identity in adolescence (Currie and Williams, 2000). We can think about those behaviors of adolescents who are taken to deal differently with stressful or challenging situations from their everyday life (Carver, 2011). The overall level of expression of aggression and its orientation to themselves or to the outside are some factors that shape the development of the personality of this period, characterized by high levels of frustration and stress on the individual and interpersonal level (Olweus, 1984; Lansford et al, 2006).

3.2. Development and changes of self-esteem in adolescence in terms of health-related behavior

Appreciation is widely atccepted as a key indicator of emotional stability and successfully adaptation to life demands. The self has close relationships with life satisfaction, with social adaptation, independence, resistance to stress, combined with a high level of educational and professional career and self-fulfillment. Consequently, self-esteem is one of the strongest predictors of subjective well-being and quality of life (Diener, 1984).

The self and perceptions about it are involved in the selection and persistence of behavior in order to self-fulfillment and maintaining health. Appreciation is associated with healthy behaviors (especially among adolescents), such as avoiding smoking, involvement in sports and exercise, how healthy eating and reducing suicidal tendencies (Torres and Fernandez, 1995).

Low self-assessment shows strong association with the presence of mental illness and lack of good psychological condition. Furthermore, is frequently accompanied by symptoms of depression, anxiety, lack of assertiveness and low perceived personal control, feelings of worthlessness with. Instead, specific perceptions of self can cause motivation to adopt positive health behaviors (Fox, 2002).

3.3. Coping modalities and adjustment to social environments' requests

Adaptation methods can focus directly on problems (rational solutions focus on problem solving) or achieving emotional balance (solutions based on emotions) (Lazarus and Folkman, 1986). Research (Piko, 2001) showed that problem-centered coping supports health - conscious behavior and preventing harmful behaviors and emotions centered orientation solutions may predispose contrary reactions such as drugs, alcohol or smoking.

According to research conducted by Keresztes and Piko (2007), the adopted coping mechanisms significantly influence decisions on health behavior of adolescents. Some results show that cognitive coping strategies, focused on solving problems associated with positive health behavior, while coping mechanisms centered on controlling the expression of emotions relate mainly to poor health behavior (Piko, 2001).

3.4. Influence of the expression of aggression orientation on mental health

Parker and Asher (1987) identify aggressive behavior as one of the strongest predictors of behavioral problems manifest in the entourage of the same age. The analysis of the expression of aggression and how to orient it towards the external environment or to themselves gives us important data to study behavior at risk and behavior conducive to health.

There are studies that show a causal relationship between certain factors regarding health behaviors (such as self-image, sedentary lifestyle, alcohol consumption, presence of psychosomatic disorders, etc...) and high levels of psychological stress, low self-esteem and high levels of aggression (Diong and Bishop, 1999).

Ortega, Mora-Merchan and Jäger (2007) argue that the phenomena of violence can be interpreted as a result of participation in interpersonal processes involving different degrees of the same structural violence in society. They are present in the attitudes and activities that students are performing in the classroom. In this way, the models of rules and values prevailing in society are repeated in the classroom to a greater extent, favoring the occurrence of abuse, social exclusion, and illegal competition, deception of wickedness from relationships that are established. Students' moral and social development includes the assimilation of ethical and social values, characterized by tolerance, resistance to frustration, and effective conflict resolution (Ogden, 2007).

Chapter IV
Methodological aspects of research

In the second part of the paper are presented the objectives, methodology and the findings, including a sample of 447 adolescents.

Chapter 4 presents the research objectives and methodology of the doctoral research. The sociological research is using a questionnaire containing items on demographic situation, the risk and protective behaviors for health, and school and family environment characteristics of adolescents. The questions have as a starting point in international research items used in health-related behavior in school (OMS 2010, Health Behavior in School-aged Children Survey). Methodological approach of the work groups of health behavior factors protective factors (maintenance or health maintenance) which include physical activity done regularly, conscious control of body weight, feelings of life satisfaction and risk factors (harmful to health), which include smoking, alcohol and drug use.

4.1. Objectives and the goal of the research

The forst objective of the research is a theoretical review of the approaches and explanatory models from the interdisciplinary field of medical sociology, health psychology, personality particularities, and developmental psychology. This approach aims to underpin the development and implementation of actual research. Furthermore, contribute to a better understanding of the studies and their integration into the scientific fields mentioned.

The practical aim of the research is to analyze the health-risk and protective factors of the adolescents, according to social contexts (family and school) in which they live. We want to gather data to support and also explain the significant changes in health-related behavior through mechanisms of global self-assessment, coping and expression of aggression, among the studied adolescents' population.

The methodological objective of the research is to outline methodological issues that may be useful in developing and implementing prevention programs in mental health. Collecting data on a sample of the adolescents' population, using several specific items from the international HBSC questionnaire allows further development of comparative studies and also provides increased validity of our research.

Overall, the research's goal is to highlight the need to address the phenomenon of bullying among adolescents in terms of risk and protective factors of their health. The paper points out the need to increase the level of education on health behavior, to promote the adoption of active and healthy lifestyles, and strengthening positive self-esteem and lifestyle satisfaction.

4.2. Hypotheses

1. The protective *(a)* and risk *(b)* factors of health behavior are significantly different by gender.
2. The analyzed personality factors (self-appreciation, coping modalities and expressed aggression) show meaningful relationships with both risk behaviors and those protectors of health.

    2.1. The level of self-esteem (RSES) has proven significant association with the high frequency of health protective behaviors, and its low frequency is associated with high occurrence of risk-behaviors;

    2.2. We assume that there are significant differences through the use of coping modalities in adolescents characterized by frequent adoption of behaviors directed toward risk compared to their peers who have a healthy lifestyle;

    2.3. The level of aggressiveness and its expression modality prove significant associations with risk and protective factors of health.

3. Social contextual factors, such as family characteristics, relations with peers and school climate show close links with protective and risk behaviors manifested by adolescents.

    3.1. Family structure, parent education level and perceived emotional support from their significant relationships determine protective and risk behaviors of adolescents;

    3.2. The amount of time spent with friends, and colleagues are closely related to adolescents engaging in protective or health-risk behaviors;

    3.3. School environmental factors such as class climate, attitude toward school, school stress, degree of acceptance from peers and teachers, and the acceptance of students' personality from teachers shows significant relationships with health and risk behaviors of adolescents;

    3.4. Teenagers involved in school conflicts and assuming the role of aggressor or victim show significant relationships with risk and protective behaviors of adolescents; the role of a victim in a school conflict shows significant correlation with health-risk factors.

4. Socio-cultural and regional context determines significant differences in terms of healthy and risky behavior of adolescents. However, there are significant differences on personality factors of adolescents from the two socio-cultural regions.

4.3. Presentation of the sample

Research was conducted on a random sample, stratified by school grade, during October 2010 – February 2011. The sample includes a total of 447 adolescents from several high schools in Targu Mures and Sighisoara, respectively Eger, Hungary. Among adolescents studied, 235 were aged 17 years (52.6%) and 212 were aged 18 years (47.4%). With regard to sex, we interviewed 191 boys (42.7%) and 256 girls (57.3%).

4.4. Methods and instruments

For the analysis of health behavior, we have developed a sociological questionnaire containing items on demographic situation, the risk and protective behaviors of health, and environmental characteristics of adolescents' school and family. The main reference for elaborating the questions was the international HBSC research (WHO 2002, Health Behavior in School-aged Children Survey). The survey has been implemented in Hungary in 2002 and 2006 (after Aszmann et al., 2003 and Németh et al., 2007, 2011) and in Romania in 2006 by Adriana Baban et al. (Baban A. et al., 2007).

Our results will allow comparison of data obtained with presented HBSC reports, obtained by identical methods based on similar items.

In the methodological approach of the research, we identified two categories of health behavior factors, grouping them in protective factors (those maintaining health) which include regularly done physical activity, conscious control of body weight, feelings of life satisfaction and in risk factors (harmful to health), which include smoking, alcohol and drug use.

The questionnaire is addressed to teenagers and contains several packages on the following questions (HBSC Hungary, Aszmann, 2003):

1. Demographic data: gender, class, school, living area (city, country, region).
2. Data regarding the *positive health behavior* of adolescents
   - Self-assessment of health;
   - Perception of quality of life;
   - Physical activity (weight and regularity of their conduct);
   - Perception of the own body;
   - The actions taken to control body weight;

   and *health-risk behaviors*:
   - Smoking;
   - Alcohol;
   - The consumption of prohibited substances (drugs, ethnobotanies, other substances).

3. Data on the social context of occurred health behaviors, namely:

- Family environment factors (presence / absence of family members, education level and perceived emotional support from parents);

- Factors derived from school (attitude towards school, subjects' acceptance by peers and teachers, classroom climate, school stress perception, aggressiveness in school);

- And the peer group membership (number of friends, time spent with friends).

4. Data on personality factors included on the survey (the aggression and the ways of expressing it, the specific methods of coping, self-appreciation) were investigated by psychological scales, as follows:

- Rosenberg Self-esteem Scale (RSES, Rosenberg, 1965), was developed to assess the overall feeling of personal worth and self-acceptance. The scale comprises 10 items and the Cronbach coefficient $\alpha = 0.89$ obtained by the author indicate good internal consistency. In the HBSC research in Hungary in 2010, in a sample of adolescents ($N = 5995$, $M = 28.86$, $SD = 5.06$) researchers obtained a Cronbach α coefficient of 0.83 (after Németh et al., 2011).

- Ways of Coping Questionnaire (WOC), developed by Folkman and Lazarus (Folkman and Lazarus, 1985) investigates the used coping strategies (centered on problems, emotions or seeking social support) for dealing with stressful situations. In the three coping strategies are described seven ways: analysis of the problem or looking for information, accepting confrontation and positive reevaluation (problem-centered strategy), self-control, removing or minimizing the threat, escape-avoidance (emotion-centered) and social support seeking. Cronbach α value for our sample for the problem-centered coping was 0.83, and for the emotions centered coping 0.69.

- Anger Expression Scale (AES), developed to assess the level of aggression by Spielberger (Spielberger et al. 1985). The test contains 20 items and measures the tendency of expression or repression of aggression as a personality trait. The test contains three sub scales: overall level of aggression (Anger Expression A / EX), expressed aggressiveness (Anger Out A / O) and repressed aggression (Anger in A / I). Studies of the field survey reported high internal validity of the scale (Cronbach $\alpha = 0.75$). For our sample, we obtained a Cronbach's α index of 0.87.

Statistical analysis was performed using SPSS (PASW) 18 version and Amos, version 18. The statistical procedures were the descriptives (mean, standard deviation, and significances), t-test for independent samples (Independent-Samples t test) analysis of variance (One-Way ANOVA) and multiple stepwise regressions.

Chapter V
Presentation and interpretation of the results

Chapter 5 contains the presentation and interpretation of results, based on proving the working hypotheses set. The assumptions about adolescent's personality factors proved significant for understanding those processes related to psychosocial risks associated with adoption or unhealthy lifestyle. However, the socio-cultural variations in perceptions surprised aspects of social support, both from the family and from school or group of peers.

We analyzed the variables involved in health behaviors by grouping them in

- ***protective factors*** (such as health self-assessment, self-assessment of quality of life, global self-assessment, regular exercise and weight, self-assessment of physical constitution and behavior oriented towards maintaining body weight), and
- ***risk factors*** (such as smoking prevalence and frequency, frequency and amount of alcohol consumption, prevalence and frequency of illicit drug use).

To variable drug, we analyzed only data on consumption of drugs, medications associated with alcohol and drug abuse ethnobotanies because the amount of data obtained from the consumption of other types of illicit substances (cannabis, cocaine, heroin, ecstasy, speed, LSD, magic mushrooms or gas inhalation) did not allow their processing by quantitative analysis procedures.

Data analysis of our research focused on hypothesis testing, such as checking the association between the levels of self-esteem, used coping mechanisms, expression of aggressiveness depending on protective factors and risk factors of health behavior. We were examined links between factors coming from the social environment (family, school, group membership) and health behavior factors, specifically socio-cultural influences of protective behaviors and health risks. Furthermore, for each studied variable were highlighted gender differences and inequalities in adopting health behaviors by adolescents.

5.1. Health and risk's behaviors inequality adopted by teenager's gender – testing the first hypothesis.

Comparing the two groups (girls and boys) showed significant differences in the majority of health protective factors analyzed. Thus, the average values of responses on health self-assessment of boys ($M = 2.01$, $SD = 0.75$) is significantly favorable ($t = -4.12$, $DF = 447$, two-tailed $p = 0.0001$) than among girls ($M = 2.29$, $SD = 0.66$).

Significant differences exist in terms of global self-assessment significantly higher in boys ($t = 4.72$, $p = 0.0001$) than in girl's; self-assessment of physical constitution, weight and regular exercise is significantly higher in boys ($t = -5.33$, $p = 0.0001$) than girls; and weight controls efforts significantly higher ($t = -2.58$, $p = 0.010$) in girls compared to boys.

Interpretation of our data allows us to draw a picture of the gender-specific individual characteristics. Boys can be described as having positive feedback about them associated with positive perceptions of their own health status, with weight satisfaction and regular physical activity. In girls, a more increased concern with external appearance and body weight (manifested by weight control efforts) can lead to negative feedback about their health or the image of self. Some of these specificities are culturally determined and are learned from early-childhood periods. They overlap the physical constitution of a genetic difference and also lifestyle, eating habits and ways of leisure seems to have a relevant impact.

Thus, the ***hypothesis 1.a.***, which assumed significant sex differences based on health behavior, was partially confirmed. We did not find significant differences in the quality of life in adolescents surveyed by gender.

Data obtained ***on risk factors*** shows that the average values of the quantity and frequency of alcohol in boys ($M = 3.20$, $SD = 1.43$) is significantly higher ($t = 5.31$, $DF = 447$, two-tailed $p = 0.001$) than in girls ($M = 2.50$, $SD = 1.35$). Thus, the two sexes differ significantly in statistical terms, especially regarding alcohol consuming.

1.b. hypothesis was also partially confirmed, arguing that risk factors to differ significantly by adolescents' gender. We obtained, however, significant differences in the prevalence and frequency of smoking and drug use prevalence and frequency between the two sexes.

Our results confirm - in terms of psycho-socio-cultural approach of adopting protective and risk behaviors of health - trends due to individual differences of gender and socio-cultural impact, often manifested by adolescents.

5.2. Analysis of health-related behavior in terms of personality factors – verifying the second hypothesis

In a first step, we analyzed the correlations between personality factors and protective factors of health. According to the results, self-assessment of health shows significant negative correlations with global self-esteem (RSES) (-0.33 *), with confrontation acceptance (-0.24 *), removing the threat (-0.15 **) between ways of coping and significant positive correlation with inwardly oriented aggression (0.12 *).

Similarly, quality of life assessment shows significant correlations with global self-esteem (RSES) (0.39 **), from the ways of coping with problem-solving (0.12 *) with

confrontation acceptance (0.28 **) and relates negatively with positive revaluation (-0.13 *), threat removal (-0.16 **) and aggression directed inward (-0.28 **). The satisfaction with physical constitution is negatively correlated with global self-assessment (-0.18 **) and weight control, with self-control (-0.11 *) and social support seeking (0.10 *). We also observed a weak but significant correlation with the level of outward expression of aggression (0.09 *).

The results revealed no significant association between global self-appreciation and risk factors for adolescent health.

However, most of the risk factors showed significant positive correlations with emotional modalities and social support seeking in coping process. However, our results showed a significant relationship between risk factors and external orientation of the expression of aggression and the overall level of aggressivity expression.

Thus, the amount of consumed alcohol present significant correlations with positive revaluation (0.26 **) with escape-avoidance (0.10 *), with the overall level of aggression (0.26 **) and outward expressed aggression (0.28 **), while the frequency of alcohol use show significant correlations with confrontation acceptance (0.11 *), and social support seeking (0.17 **), the prevalence of drug consume with positive revaluation (0.14 **), and expressed aggression (0.13 **). The ethnobotanies substance use frequency relates significantly with positive revaluation (0.16 **), with the overall level of aggression (0.10 *) and outwardly expressed aggression (0.13 **).

Our results show the presence of associations between most prevalent health factors and confrontation acceptance in the coping process. Studies in this area provide important support points in interpreting this correlation. Researchers describe an efficient way regarding coping in adolescents in the need of assertive behavior and cognitive functioning of those components (manifested predominantly in problem-focused coping methods) that provides flexible adaptation to environmental challenges. In contrast, adolescents may adopt avoidance and fewer effective methods, generally accepted instead of confrontation, thereby avoiding the difficulties and often unpleasant actions of using active ways of coping (Hurrelmann and Richter 2006, Spielberger, 2004).

Concerning the health-risk behaviors, we observe the predominant presence of positive reappraisal, efforts to minimize the threat, avoidance and social support seeking. This distinction emphasizes explanation that risks behaviors are closely associated with predominantly emotion centered ways of coping and avoidance. These specificities can strengthen the idea sustaining that coping process adoption and health-risk behaviors associations are manifested in the lack of efficiency of personality and adolescent health (Silbereisen and Todt, 1994).

Our results and other studies previously reviewed (Diener 1984, Pressman and Cohen 2005, Hurrellmann and Richter 2006, Diong and Bishop 1999, Ravens-Sieberer et al. 2004) highlights the crucial character personality factors into the assessment of quality of life,

considered the most important indicator of overall well-being and the health of adolescents. Regression analyzes of the three main components of the personality show that they are significant predictors of quality of life in adolescent self-esteem level of our sample.

In this method, we introduced first the global self-appreciation (model I), which explained 15.3% of the variance of self-assessment of quality of life ($F = 80.46$, $p = 0.000$), and repressed aggression (model II), confrontation acceptance as a way of problem-focused coping on the (model III) and positive revaluation as a way of emotion-focused coping (Model IV). The four factors together explained 21.5% of the variability in self-assessment of quality of life. Quality of life is seen in many other studies the most significant protective factor of health (Friedli 2009, Bowling and Windsor 2001, Eid and Diener 2004).

Summing the results of our analyzes we argue that the protective factors of health behavior, high level of self-appreciation had relevant negative correlations with global self-assessment, the ways of coping with accepting confrontation, threat removal and significantly positive correlation with aggression directed towards its own person. Self-assessed quality of life shows significant correlations with problem-solving and confrontation acceptance as ways of coping, and negatively with positive reevaluation, the removal of threat and inward directed aggression. Satisfaction with physical constitution is negatively correlated with general self-assessment and weight control relates negatively with global self-assessment, self-control and social support seeking from ways of coping, and with the outward expression of aggression.

Many risk factors showed significant positive correlations with emotional ways and seeking social support for the process of coping with external expression of aggression and its overall level of expression.

Regression models have shown that self-assessment of quality of life is determined by high global self-assessment ($\beta = 0.08$, $SD = 0.01$, $p = 0.000$)[*], the lower repression of aggression ($\beta = -0.06$, $SD = 0.01$, $p = 0.000$), choosing ways of problem-centered coping ($\beta = 0.11$, $SD = 0.03$, $p = 0.000$) and avoid choosing methods of emotions centered coping ($\beta = -0.06$, $SD = 0.03$, $p = 0.040$).

The role of self-appreciation in the adoption and maintenance of health behaviors

Global self-appreciation (RSES) is significantly determined by a high quality of life self-asessment ($\beta = 0.97$, $SD = 0.14$, $p = 0.000$), a positive appreciation of health ($\beta = -1.17$, $SD = 0.34$, $p = 0.001$), of high frequency of physical exercise ($\beta = -0.57$, $SD = 0.15$, $p = 0.000$), concerns over the control of body weight ($\beta = -0.38$, $SD = 0.16$, $p = 0.020$) and positive self-assessed physical constitution ($\beta = -0.64$, $SD = 0.30$, $p = 0.035$).

[*] β=standardized coefficient of regression, DS =standard deviation, p =level of significance

Data's modeling using regression, we obtained a model (CFI = 0.631, RMSEA = 0.107, 90% confidence interval = 0083-0134.), where the represented paths are significant (chi square = 61.523, DF = 10, p = 0.001). Protective factors of health behavior (health self-assessment, self-assessment of quality of life, body exercises, weight control, and self-assessment of the physical constitution) are presenting as a significant way to global self-appreciation among the surveyed adolescents.

Our results are in accordance with other studies, which supports that these variables are fundamental for mental health. Furthermore, they contribute to better health status through its negative influence's attenuation function. In contrast, low self-esteem can play a critical role in developing many of the internalizing problems (such as depressive symptoms, anxiety) and externalizing (e.g. aggression, alcohol and substance) (Mann et al., 2004).

Hypothesis 2.1 it is partially confirmed as self-esteem, especially through the significant association with health protective factors, is the main determinant of quality of life.

Differences of coping and adopted health behavior

According to studies centered on the coping, adolescent's recourse to various ways to cope with stressful or challenging situations throughout their lives. The coping method adopted will be determined when a particular approach has led for the past to solve them effectively and dead (Langens, 2003).

Using the analysis of variance (ANOVA), we obtained significant differences in coping styles (problem-focused and emotion-focused) by the protective factors of health. There are differences in the assessment of quality of life (F = 1.52, p = 0.048) and global self-esteem (F = 1.72, p = 0.015) by problem-centered coping. There are also significant differences in overall self-assessment (F = 1.92, p = 0.009) and regular physical activity (F = 1.63, p = 0.040) according to the methods of emotion-focused coping.

We obtained significant differences in the associations between ways of coping and health-risk factors. Problem-centered coping shows association between health risk factors only to the amount of alcohol (F = 1.59, p = 0.033). Coping methods centered on emotions has significant links with frequency of smoking (F = 1.59, p = 0.048) and frequency of drug use (variable drugs with alcohol) (F = 2.25, p = 0.001).

Longitudinal studies have found that high levels of coping skill was associated with the lowest consumption of illicit substances, school problems and other psychological difficulties (Shek, 1998). However, negative family context is closely related to lower levels of coping resources, the higher level of school problems and amount of risky behaviors. These results,

therefore, suggest that coping strategies can play a mediator role, positively, over the consumption of harmful substances.

Hypothesis 2.2 thus confirming by the results mentioned.

***Aggression level and orientation effects on risk behaviors*:**

Self - assessment of health (0.12 *), quality of life (-0.28 **), regular exercise (-0.10 *), show negative correlations with high levels of repressed aggression. In other words, how adolescent's higher levels of aggression directed inwards as much evaluate their health, quality of life and exercise performed less consistently.

Health risk factors are significantly correlated with the overall level of aggression, outwardly aggression expressed respectively. For example, all analyzed indicators of consumption of harmful substances, such as prevalence of drug use (0.13 **), frequency of use of medication (0.10 *), the drugs associated with alcohol (0.17 **) and ethnobotanies consumption (0.13 **) is in significant positive correlation with the expressed aggressiveness factor (outward). These results may lead to the explanation that illicit drug use can be a way to release mental stress accumulated from various sources during adolescence.

Our results support the significant relationship between self-assessment of quality of life (protective factor), the amount of alcohol consumed (risk factor), prevalence or drug use frequency (drugs, alcohol and ethnobotanies - risk factors) and high general level of expression of aggression.

Predominant manifestation of suppression of aggression will lead to health-risk behaviors, while expressing aggression toward others, might help the adolescents' mental balance. It is important to underlie that the outward orientation of aggression implies the weakening of social control manifested in relationships with others. This mechanism may explain the association of outwards directed aggression and prevalence of risk behaviors.

Furthermore, low perception of risk influences the degree of engagement of adolescents in different risk behaviors. Efficiency in the use of social skills (acquired through parental models, through education and by developing harmonious emotional relationships) will directly determine the interaction of expressing aggression and adoption of health behaviors.

The high level of aggressiveness orientation to themselves shows close relationship with the quality of life ($F = 3.74$, $p = 0.000$), global assessment of self ($F = 3.69$, $p = 0.000$), weight exercise ($F = 1.64$, $p = 0.037$) – among the protective factors; and the frequency of drug use (drugs with alcohol ($F = 1.68$, $p = 0.032$) and ethnobotanies ($F = 1.70$, $p = 0.028$) – among the risk factors.

Regarding the high level of the outward orientation of aggression, we obtained significant associations only with health-risk factors such as frequency of smoking ($F = 2.26$, $p = 0.001$), the amount of consumed alcohol ($F = 2.61$, $p = 0.000$), prevalence ($F = 1.59$, $p = 0.048$) and frequency of drug use ($F = 1.61$, $p = 0.038$), and none with the protective factors of health.

Hypothesis 2.3 it was thus confirmed.

5.3. Analysis of the social context in which health behaviors of adolescents occur – testing the third hypothesis

5.3.1. Analysis of factors from family environment

Family structure:

Regarding our study sample, father's presence had significant influence on quality of life, from the protective factors of health. According to our data, self-assessment of quality of life ($t = 3.14$, $p = 0.002$) of children living with their father was significantly higher than that of children living in his absence. Moreover, adolescents whose family has a present mother had a significantly more favorable judgment on their quality of life ($t = 3.28$, $p = 0.001$) than those living in its absence. Interestingly, assessment of physical constitution ($t = -2.17$, $p = 0.030$) is significantly positive in adolescents living with their brothers in the family than those in families whose missing brother.

Multiple regression analysis revealed that self-assessment of quality of life is significantly determined by the presence of the mother ($\beta = -0.66$, $SD = 0.32$, $p = 0.039$), father ($\beta = -0.54$, $SD = 0.18$, $p = 0.003$) and brothers ($\beta = 0.35$, $SD = 0.16$, $p = 0.027$) in the family, or perceived emotional support from the mother ($\beta = -0.64$, $SD = 0.15$, $p = 0.000$).

Regarding the relationship between family structure and adolescents' risk behaviors, we obtained significant differences in health-risk factors related to the presence or absence of parents.

Thus, the absence of the father shows according to our data, significant associations with the amount of alcohol ($t = -2.20$, $p = 0.029$) and illicit drugs use ($t = -2.86$, $p = 0.004$) among adolescents. Mother's lack of presence in family shows significant differences regarding the prevalence ($t = -2.98$, $p = 0.003$) and frequency of use of different types of illegitimate substances, such as drugs ($t = -1.98$, $p = 0.048$), medication with alcohol ($t = -2.80$ $p = 0.005$) and ethnobotanies ($t = -3.30$, $p = 0.001$).

***Perceptions of family emotional support**:*

According to the results, there is a correlation of health protective factors in adolescents and the received emotional support from parents. Self-assessed health (0.09 *), weight (-0.17 **), exercise regularity (0.10 *), and self-assessed physical constitution (0.09 *) are significantly associated with affective support received from the father. Furthermore, self-assessment of quality of life (-0.24 **) and body weight control (-0.24 **) show significant correlations with emotional support received from the mother. We obtained significant correlations between health-risk factors and adolescents' emotional support received from parents.

Parental presence and emotional support given by parents to children are the most important factors of social context; they play a significant role not only in physical and mental health of adolescents, but also in how they deal with crisis situations in life.

Adolescents who reported better communication with their parents provide an assessment of better health and less likely to become smokers or alcohol consumers (Andersen et al., 2002; Zambon et al., 2006; Del Carmen Granado Alcon et al., 2002).

We considered it important to analyze the relationship between this aspect of the social context and ways of coping adopted by teenagers. Significant associations have obtained from variable - coping centered emotions. The group of teenagers who have received emotional support from the mother - by discussing their problems with them - average of self-control showed ($t = -2.04$, $p = 0.042$) significantly higher values. These data show that family discussions are intended to facilitate control and self-control in the process of coping. Our observations confirm these trends, the role of mothers known in adjust their children's behavior in different problematic situations.

Next we examined the effects of perceived social support from parents on adolescent aggression manifestation. Using ANOVA, we obtained results that show significant influence of perceived support from the mother ($F = 3.46$, $p = 0.02$) and father ($F = 3.72$, $p = 0.01$) on adolescents' aggressive manifestations.

General expression of aggression ($F = 5.34$, $p = 0.021$) and aggressiveness manifested outwardly ($F = 4.04$, $p = 0.045$) have significant relationships with perceived social support from fathers and aggression directed inwards ($F = 9.59$, $p = 0.002$) - with emotional support perceived by mothers. We can say, then, that there is a difference in the expression of aggression based on perceived social support.

Level of parent's education and health behavior of adolescents:

According to our results, adolescents, whose mothers have a higher educational level consider their quality of life significantly positive ($t = 2.79$, $p = 0.005$) than those with mothers with a lower education level. Higher education level of mothers is however, closely related to a higher drug prevalence ($t = 2.20$, $p = 0.029$) and drug use ($t = 2.35$, $p = 0.020$). Frequency of alcohol consumption ($t = -2.19$, $p = 0.030$), at the same time, is higher in subjects whose mothers are characterized by a lower level of education. Protective factors of health and self-assessment of quality of life ($t = 2.83$, $p = 0.005$), global self-assessment ($t = 2.03$, $p = 0.042$) and weight control activity ($t = -2.04$, $p = 0.042$) have significantly higher levels in adolescents whose fathers are characterized by a higher-education level. Among the risk factors of health, we obtained significant differences associated to the level of education of the father.

The educational level of the parents is a moderating factor regarding health behavior of adolescents.

According to our analysis, ***hypothesis 3.1*** were confirmed, highlighting important differences in risk and protective factors based on family structure, perceived emotional support from parents and their education level.

5.3.2. Peer group influence on health behavior:

Our results support significantly higher levels of positive self-esteem ($t = 2.12$, $p = 0.034$) and weight control activity ($t = 3.89$, $p = 0.000$) in adolescents who spend between 3 and 5 days a week with friends. The global self-assessment ($t = -3.75$, $p = 0.000$) also shows significantly higher levels in those who spend more time with peers from their age category. Regarding associations with health-risk factors for time spent with friends, we obtained important differences in most variables. Thus, we observed a significant higher prevalence ($t = 2.03$, $p = 0.043$) and frequency ($t = 2.38$, $p = 0.0018$) of smoking and frequency of alcohol consumption ($t = 4.64$, $p = 0.000$) in adolescents who spend weekly time with friends (3-5 days per week) than their peers who spend less time with their colleagues. The amount of alcohol consumed ($t = -3.30$, $p = 0.001$) and prevalence ($t = -2.60$, $p = 0.010$) and frequency ($t = 2.43$, $p = 0.016$) of ethnobotanies also was significantly higher in adolescents who spend more time with friends of the same age.

Studies estimate that teens generally try to be more with friends than family, and adolescence and can spend twice as much time with their peers than with parents (Brown and Klute 2003, Fuligni et al., 2001, Schneider, 2000; Brown, 2004).

Hypothesis 3.2 thus confirmed, showing a significant impact of the number of friends and time spent with peers of the same age by teenagers on their health behavior.

5.3.3. Implications of school factors on health-related behavior:

Correlation analysis between school environment factors and the protective / risk of health self-assessment shows significant associations between health and attitude toward school (0.10 *), school stress (0.21 **), acceptance from colleagues (0.10 *) and teachers (0.12 **). Self-assessed quality of life proves significant correlations with all the factors coming from schools included in our analysis. Thus, it is closely related to attitudes toward school (-0.15 **), to the social climate of the classroom (-0.24 **), to acceptance by other students (-0.10 *) and by teachers (-0.18 **), the acceptance toward the personality (-0.13 **) and level of school stress (-0.10 *). Protective factors such as physical constitution and regular exercises also shows significant correlations with academic stress (0.11 * or 0.13 **) and perceived acceptance by teachers (0.14 ** 0.10 * respectively).

A correlation between school environment factors and the risk of health emphasizes the close relationship between students' attitudes toward school and the health-risk factors. Thus, the attitude towards school is closely linked to smoking frequency (-0.15 **), the quantity (0.21 **) and frequency of alcohol consumption (-0.20 **), prevalence (0.21 **) and frequency of use of illicit substances, such as drugs (0.20 **), drugs with alcohol (0.15 **) and ethnobotanies (0.22 **).

Significant correlation relationships draw our attention to the great importance that schools exert on adolescents' behavior. Thus, knowledge of these associations is of particular interest in developing health promotion programs. Studies have identified the school as one of the prime importance in the efficiency of prevention programs (Sarason et al., 1990, Mirowsky and Ross, 2003; Albert-Lorincz, 2011).

Social climate of the classroom:

According to our data, the positive social climate, favorable classroom is closely linked to high levels of healthy self-esteem ($t = -2.25$, $p = 0.026$) and quality of life ($t = 2.06$, $p = 0.042$). Among risk factors, frequency of alcohol consumption ($t = 2.30$, $p = 0.023$), prevalence ($t = -3.01$, $p = 0.003$) and frequency ($t = -3.37$, $p = 0.004$) of drugs are higher for adolescents who perceive an unfavorable social climate of the classroom.

Attitude towards school:

On protective factors of health and attitude toward school, our results show significant relationships between variables. Thus, the average values of self-assessment of the quality of life in children who have a favorable attitude toward school ($M = 7.22$, $SD = 1.61$) is significantly higher ($t = 2.31$, $DF = 445$, two-tailed $p = 0.022$) than that of children with unfavorable attitudes toward school ($M = 6.81$, $SD = 1.75$). Regarding risk factors, we obtained significant relationship between attitude and prevalence of unfavorable school

attitude (t = 4.22, p = 0.000) and quantity of smoking (t = -5.53, p = 0.000), alcohol consuming frequency (t = 3.07, p = 0.000) and between prevalence (t = -4.18, p = 0.001) and frequency of use of medication (t = -3.99, p = 0.008), medication with alcohol (t = -3.86, p = 0.003) and ethnobotanies (t = -5.15, p = 0.000).

According to our results, positive attitude towards school includes the inclination towards positive health behavior, while a negative attitude towards school entails predominant health risk conduct.

School stress

The results of our analysis about the link between protective factors of health and levels of stress perceived by the student, such as the self-assessment of health in children who do not feel / felt little stress in school (M = 2.10, SD = 0.72) is significantly favorable (t = -2.97, DF= 445, two-tailed p = 0.003) than that of children who experience high levels of academic stress (M = 2.30, SD = 0.68). It also presents significant correlations with self-assessment of decreased quality of life (t = 4.10, p = 0.000) and the global self-esteem (t = 4.20, p = 0.000) with low regularity exercise (t = 2.10, p = 0.037), the assessment of physical constitution (t = -2.15, p = 0.032) and body weight concerns (t = -2.14, p = 0.028).

Adolescents who experience high levels of stress in their school more frequent use of alcohol and smoking as a method for try to reduce mental tension. Average values on adolescents' smoking frequency who perceived high levels of stress (M = 1.25, SD = 0.48) were significantly favorable (t = 2.16, DF = 445, two-tailed p = 0.030) than that of those who perceive a low stress (M = 1.36, SD = 0.50). Also on alcohol consuming (M = 3.02, SD = 1.39) were significantly higher (t = -2.42, DF = 445, two-tailed p = 0.020) compared with those who do not experience stress environments at the school level so high (M = 2.69, SD = 1.43).

The high school stress is associated with a wide range of outcomes related to health and comfort state, including low self-perception of health status, lower quality of life and lower school satisfaction, along with increased levels of somatic and psychological symptoms reported (Ravens -Sieberer et al., 2004).

School acceptance

Our results showed significant associations between self-assessment of quality of life and accepting perceptions in school. Subjects who were perceived to be rejected by their peers reported significantly lower levels of self-assessment of quality of life (t = 3.84, p = 0.001) than their more accepted mates. Of health-risk factors, frequency of alcohol (t = -2.25, p = 0.025) and drug (t = -5.42, p = 0.0012) consuming was significantly higher for adolescents rejected by their peers.

The attitude of teachers towards students:

Close attitude, openness of teachers to students showed significant influence on self-assessment of quality of life. Thus, adolescents who perceived their teachers as predominantly closer they reported significantly higher levels of quality of life ($t = 3.06$, $p = 0.003$) than their peers with distance's perceptions of their teachers. In terms of health-risk factors, the proximity of teacher is closely related to a lower frequency ($t = 2.58$, $p = .011$) of smoking, alcohol intake ($t = -2.46$, $p = 0.014$) and the frequency of drug use, medication ($t = -2.06$, $p = 0.041$) and ethnobotanies ($t = -2.30$, $p = 0.023$). These risk factors have significantly higher levels in students who perceive their teachers to be often distancing from them.

Interpreting these results, we can state that near or on the contrary, the distance perceived by the students from the teachers outlining positive and negative school experiences. However, they, in turn, will result in the formation of a school self-appreciation, which will include assessments and evaluations of their effectiveness and skills on achieving a desired performance.

Acceptance of student's personality by teachers

According to the data obtained, students who feel accepted by teachers report better health status ($t = -2.67$, $p = 0.008$), a higher quality of life ($t = 2.28$, $p = 0.024$) and global self-esteem ($t = 3.72$, $p = 0.001$) more positive. At the same time, accepted students seem to consider more favorably their physical constitution ($t = -2.05$, $p = 0.042$) and are less concerned about their body weight ($t = -2.08$, $p = 0.039$).

Thus, we can say that the teachers' acceptance regarding the students' personality is an important factor, coming from school, which strongly influences the behavior of adolescent health care.

We obtained statistically significant differences in risk factors for health behavior based on accepting personality of students by teachers.

5.3.4. Implications of participation in altercations at school on adolescent health

Involvement in school altercation

Analyzing school aggressiveness depending on the protective factors of health, we obtained significant differences in the performances of exercise regularity ($t = -3.14$, $DF = 445$, two-tailed $p = 0.002$) and weight control ($t = 4.75$, $DF = 445$, two-tailed $p = 0.000$). Thus, students who do not engage in conflict situations often performed to more regularly exercise.

Risk factors were found significantly higher in adolescents often involved in school altercations then their peers not involved in them. Thus, we obtained significant differences related to frequency ($t = 3.56$, $p = 0.001$) of smoking, quantity ($t = -3.90$, $p = 0.000$) and frequency ($t = 5.15$, $p = 0.000$) of alcohol consumption, respectively the prevalence ($t = -1.98$, $p = 0.050$) and frequency ($t = -2.34$, $p = 0.022$) of consumption of illicit substances.

Our results highlight the association of risk factors with the student involvement in conflicts or altercations at school.

The role of "victim" in cases of school aggression

According to our analysis, self-assessment of health ($t = -2.79$, $p = 0.005$), quality of life ($t = 4.40$, $p = 0.000$) and overall self-assessment ($t = 3.65$, $p = 0.000$) show significantly lower values in adolescent victims of aggression in school than their peers. Regarding health-risk factors for adolescent victims of bullying have obtained significant differences for frequency of alcohol - wine ($t = -2.13$, DF = 445, $p = 0.035$ two-tailed), short drinks ($t = -2.23$, DF = 445, $p = 0.026$ two-tailed) and the quantity of alcohol consumed ($t = 2.04$, DDF = 445, two-tailed $p = 0.042$), compared to their peers. The role of the victim in cases of school aggression has closely connected with the frequency and amount of alcohol consumed by assaulted teenagers.

Our data are consistent with research findings within the field (Salmivalli and Isaac, 2005) and shows that adolescents who are victims of assault in school conflict significantly appreciate their health as worse, having a lower level of quality of life and have a more negative self-esteem then adolescents reported not abused. Thus, victims of aggression, shows increased vulnerability in terms of their health; mostly, because of health protective factors are at a lower level compared with non-aggressive adolescents.

The role of "aggressor" in situations of school aggression

Comparing the two groups (aggressive and non-aggressive students) did not show significant differences in the majority of health protective factors analyzed.

Only regarding healthy self-esteem, aggressor's mean ($M = 2.28$, $SD = 0.69$) were found significant positive ($t = -2.15$, two-tailed $p = 0.032$) than other students' ($M = 2.12$, $SD = 0.71$). However, the role of an aggressor has profound implications for risk behaviors adopted by teenagers. Thus, we can say that the role of the aggressor is closely associated with higher frequency ($t = 2.51$, $p = 0.013$) of smoking, with a higher frequency of alcohol consumption - beer ($t = 2.00$, $p = 0.046$) and short drinks ($t = 2.03$, $p = 0.043$) -, with a greater amount of alcohol consumed ($t = -2.29$, $p = 0.022$), and also with a higher frequency of consumption of drugs taken with alcohol ($t = 2.50$, $p = 0.013$).

Summing, our analysis of the variables from the family, the school and the age group (such as positive school experiences, school aggression factors, and family structure, communication with parents and relations of friendship) have shown close relationships with health and risk behaviors.

Meanwhile, personality components addressed in our research based adolescent adaptation to the social environment (school, family and age group). However, the manifestation of aggression in schools was considered to be closely related to low self-assessment (Youngblade, Theokas, Schulenberg, Curry, Huang and Novak, 2007).

5.4. Comparative analysis of the variables included in this research based the regional and cultural differences – testing the fourth hypothesis.

Differences in protective and risk factors of health behavior in terms of socio-cultural environment

Analyses are designed to prove the hypothesis of cultural differences related to health behavior while allowing conducting behavioral and personality profiles of adolescents included in our sample. It also is interesting to examine changes in those components that shape social-cultural context in which adolescents live, such as family composition, social support, acceptance at school or their attitude toward school.

According to our data, geographic and cultural context showed significant associations of health protective factors, such as assessing the quality of life ($t = -3.22$, $p = 0.001$) and overall self-assessment ($t = -3.13$, $p = 0.002$) and also on weight control ($t = 3.09$, $p = 0.002$) and regularity of physical activities ($t = 3.21$, $p = 0.001$) that engage adolescents. Our results argue that Romanian adolescents perceive their quality of life as significantly better than students of Hungarian respondents, which, however, adopted several health behaviors keeping the number of physical exercises and perform them regularly. In terms of health-risk factors, our results suggest that adolescents from both regions frequently adopt health-risk behaviors.

Thus, respondents form the Hungarian region reported a higher frequency of smoking ($t = -2.19$, $p = 0.029$), and quantity ($t = 3.47$, $p = 0.001$) and frequency ($t = -5.99$, $p = 0.000$) of alcohol consumption. Furthermore, the prevalence of drug ($t = 2.44$, $p = 0.015$) compared with showed a higher risk.

Factor analysis results confirmed significant differences in the family environment, where the presence of brother's variable was more available ($t = -4.38$, $p = 0.000$) in terms of family composition and emotional support from the father ($t = -1.26$, $p = 0.014$) and sisters ($t = -2.74$, $p = 0.006$).

In the influence of the peer group, we observed significant difference's only at the variable of emotional support from friends ($t = -3.42$, $p = 0.001$), showing higher prevalence in adolescents living the city of Eger. Regarding the number of friends and time spent with peers, adolescents surveyed by us are not significantly different.

School-related variables, such as attitudes toward school ($t = -2.37$, $p = 0.018$), the climate class ($t = -2.20$, $p = 0.028$), school acceptance ($t = -2.68$, $p = 0.008$), attitude of teachers toward students ($t = -3.49$, $p = 0.001$), but also the role of a victim ($t = -2.98$, $p = 0.003$) and aggressor ($t = -2.13$, $p = 0.034$) played in the classes show significant differences between the two groups.

Analysis of personality components based on socio-cultural factors

We found significant differences in personality analysis adolescents from the two regions. According to the results obtained by us, we argue that adolescents in Tg. Mures reported a significantly higher level of self-esteem ($t = -3.13$, $p = 0.002$) than those of Eger.

In a comparative analysis on the adopted coping modalities, significant differences were found in self-control ($t = 2.17$, $p = 0.031$), which is significantly higher in adolescents from Eger and escape-avoidance, which are ($t = -3.48$, $p = 0.001$) significantly higher in the Tg. Mures. It is important to note that along these variable adolescents experienced many similarities, which is easy to interpret, if we consider that the factors of personality development are showing homogeneous tendencies in most cultures.

We did not notice significant differences at the level and manner of expression of aggression between the two groups.

In comparative analyzes assumed by hypothesis 4, that social and environmental factors are determinants of the health of adolescent in terms of the social-cultural differences in the two regions were confirmed.

Conclusions

Our research outlines an overview of the various social structures that determine health-related and the risk behaviors of adolescents. Together with international research within the field (see Currie, 2008) our results support the existence of differences in health status and health behaviors by the gender of respondents. Following our analysis, we can state that boys and girls differ significantly both in protective behavior and in the health risks. Boys have a more positive perception of their health, a higher level of self-esteem and a more positive body image perception. Girls, however, are more concerned with weight control and show a lower level of self-esteem. However, adoption of risk behaviors is more common among boys, such as, for example, smoking and alcohol consumption than among girls.

Thus, *hypothesis 1*, suggesting the existence of gender-related differences on protective factors and to the health risk was partially confirmed.

The relationship between risk and protective factors for health and personality factors included in our research proved also significant. Thus, self-assessment of health presents significant correlations with global self-image, acceptance of confrontation and threat removal - from the ways of coping - and also a significant positive correlation with the low level of aggression directed inward.

Assessing quality of life has proven significant correlations with global self-assessment and, of ways of coping, with problem-solving and confrontation - acceptance and negatively with positive revaluation, the removal of the threat and inward directed aggression.

The satisfaction with the own physical constitution is negatively correlated with global self-assessment and weight control, relate negatively to self-control and seeking social support, and for the outward expression of aggression, we observed a weak but significant correlation.

Global self-assessment shows significant correlations with health protective factors, such as evaluating the quality of their lives, health self-assessment and engaging in physical activities. Our results are consistent with other studies that claim that high levels of self-esteem contribute to better health status, and playing the function to mitigate negative influences.

In contrast, low self-esteem can play a critical role for the development of numerous internalizing (such as depressive symptoms, anxiety) and externalizing problems (e.g. aggression, alcohol and toxic substances) (Mann et al., 2004).

Hypothesis 2.1 it is confirmed in part because adolescent's self-assessment shows significant associations, particularly of health protective factors, the main determinant of quality of life.

Ways of coping differ significantly according to the sex of adolescents, but is closely linked to the risk or protective factors of health. Thus, the boys used mainly confrontation, while girls are more often used to avoidance and generally to emotions centered ways of coping. Many risk factors showed relevant positive correlations with emotional ways and social support seeking in coping process. However, our results showed a consequential relationship of risk factors with external ways of expressing aggression and its overall level of expression.

The data show significantly higher confrontation acceptance in boys and predominance of emotion centered methods in girls belonging to our sample. Coping methods centered on emotions has significant links with the frequency of smoking and drug use frequency (variable drugs and alcohol). Significant differences we observed in assessing quality of life and overall self-assessment based on problem-centered coping methods. Problem-centered coping shows significant associations between health-risk factors, only at the amount of alcohol. The *2.2 hypothesis* was thus confirmed.

Statistical analyzes to showed significant differences by gender in the expression of aggression. For girls, inward directed aggression is considerably higher than for boys. The level of aggressiveness expressed is significantly different depending on how coping and self-assessment is adopted by adolescents. Manifestations of overall aggressiveness and its orientation has significant relations with emotions centered ways of coping (especially the removal of the stressful situation or threat minimization and avoidance) and social support seeking. The low level of manifested aggressiveness is associated with a positive appreciation of self, and the inward orientation of aggression with a more pessimistic self-esteem. The obtained data support that protective factors of health (such as self-assessment of health, of quality of life and regular exercise) shows significant negative correlations with high levels of repressed aggression. In other words, how adolescent's higher levels of aggression directed inwards the more negatively evaluate their health, quality of life and performed exercise less consistently. Health risk factors are significantly correlated with the overall level of aggression, and respectively the outward manifested aggression. For example, all indicators of harmful substance use analyzed (prevalence of drug use, frequency of use of drugs, alcohol and drugs associated with ethnobotanies) is in significant positive correlation with manifest aggression (outward). So the *Hypothesis 2.3* it is confirmed.

According to our analysis, there are important differences between risk and protective factors, depending on family structure, perceived emotional support from parents and their education level. Regarding the effect of the number of friends and time spent with peers of the same age by teenagers on their health behavior, we obtained also significant relationships. Possible interpretations of the relationships that described may be more lonely adolescents who spend less time with friends and have a few friends will generally have fewer opportunities to acquire protective behavior patterns (physical exercises performed usually among friends, satisfactory appraisals on body image and overall self-image). At the same time, some teenagers will experience the harmful effects of spending time with colleagues, the results showing the significance of the variations in smoking, drugs and alcohol. However, lack of time spent with friends, also show the significance of the impact on the drug consumption. We can think here for those teenagers who are repressive in their relationship difficulties by harmful eating, substances or alcohol consuming. These features along with, the study highlights that among often lonely teenager's low self-esteem, life satisfaction and depressive symptoms are more common, and they are more likely to become victims of school violence (Bender and Losel, 1997; Kuntsche and Gmel, 2004).

Thus, *hypothesis 3* was confirmed.

In terms of socio-cultural environment, our results show significant differences in assessing health status and life satisfaction, among other protective and health-risk factors, in surveyed adolescents of both regions. The number of teenagers who "tried" a drug has a similar incidence in both groups of subjects.

Facilitation of community or cultural resources, to engage in various physical activities can be correlated with low engagement of adolescents in the range of challenging risk behavior. However, they contribute to strengthen health-related beneficial results, including favorable self-appreciation and high school performance (Nelson and Gordon-Larsen, 2006).

The research results provide important points of reference for the development of prevention programs in adolescents' mental health protection, but can be useful for planning and implementation of education programs for optimizing and improving the school environment also.

Interventions focused on providing and obtaining better results on the health of adolescents were always based on the results of empirical and theoretical researches and suggestions from the field. Thus, our research focuses on studying protective factors and risk in terms of the resources provided by the social environment and lifestyle of adolescents. Actions of health promotion and prevention of risk behaviors may be based on conclusive evidence of the need to include social support networks available to adolescents. Consequently, it will lead to

high levels of good performance status, which, in turn, will provide overall healthier living (Piotrowski 2010, Howell, Kern, and Lyubomirsky, 2007). According to other researchers within the field, emphasizes health education programs aimed to facilitate the efficient use of health care resources, from both internal sources - the personality - and the external - relations and support from family members, school staff and the peer group (Cockerham 2010, Botvin 2000). With implications to prevention of risk's behaviors, research results emphasize the need of focusing the prevention efforts on both individual factors and the environmental factors of cohabitation with peers.

Research limitations may relate to our focus on a single age group (17-18 years), thus making it difficult to identify the prevalence and frequency of risk behaviors developing throughout childhood and adolescence. Although our results provide an important contribution to understanding the causal factors of risk behavior's occurrence, the analysis needs to be continued, taking into account additional personality and environmental factors involved.

In a possible future research direction regarding health behavior in adolescents, we could include conducting a cross-section research, on a larger sample; this way, we could enhance the results in terms of stability of protective behaviors formed during a larger period of development.

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