



Summary of dissertation

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**POSITIVE PSYCHOLOGICAL ASPECTS OF PRIMARY AND HIGH
SCHOOL STUDENTS' WELL-BEING**

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Abbreviations

SWL-Satisfaction with life

LOT-Optimism

CDI-Depression

PSS-Perceived Stress

Introduction and theoretical background

My empirical work addressed factors that predict different aspects of adolescent well-being. The major part of this effort was to reveal the role of optimism and coping strategies in students' psychological adjustment.

Adolescence as transitional period between childhood and adulthood is associated with numerous and quick changes. These changes stem from complex physiological, cognitive and social developmental processes (*Moksnes, 2011; Trejos-Castillo & Vazsonyi, 2011*). Such kinds of events accumulate as normative stressors in adolescents' life, who have to cope with them in an adaptive way. So it is important to explore those factors which might help the youth to cope efficiently, or which can buffer, mitigate harmful effects to their health, and which can contribute to their physical and mental well-being. Exploration of protective factors which has a positive relationship with health indicators and well-being, and a negative one with health risk factors might be the basis of school prevention programmes too.

Examination of factors that contribute to adolescents' well-being and health should be carried out by taking into consideration the principles of positive psychology. Positive psychology is a psychological approach which emerged after the World War II and got an explicit declaration in the beginning of the new millennium. On the one part it targets the optimal human functioning, on the other hand it can be considered as a vision, a theoretical framework that tries to achieve a well-balanced focus of psychological interest. Besides the negative, the pathologies, the anomalies, it also tries to put the same emphasis on well-being, healthy human functioning, happiness and human strengths which can support them (*Seligman & Csikszentmihalyi, 2000; Linley, Joseph, Harrington & Wood, 2006*). Later, other fields such as education (*Seligman, Ernst, Gillham, Reivich & Linkins, 2009*) and health science (*Seligman, 2008*) also adopted positive psychological approach. Health promotion also has many common points with positive psychology, so it might profit much from empirical results comes from this psychological field (*Kobau, Seligman, Peterson, Diener, Zack, Chapman & Thompson, 2011*). Below, I review some factors which could be addressed by a positive health promotion programme for teenagers, and which thus were the parts of my empirical research too.

Positive psychology distinguishes at least three types of happiness. Hedonistic happiness means intensifying the pleasant experiences, and minimizing the negative ones. The other type of happiness stems from engagement and flow experience. The third type of happiness is the meaningful life, in which one serves something larger (idea, family, love, God etc.) than him (*Seligman, Parks & Steen, 2004*). My empirical survey primarily focused on the indicators of adolescents' hedonistic happiness (such as subjective well-being, perceived stress), but I also concerned the two other types of happiness with the examination of adolescents' coping. Subjective well-being in adolescence is mainly determined by societal and social factors. Among them youth's socioeconomic status, quality of social networks and communities, well-being of family and the financial background can be especially stressed (*WHO/HBSC Forum 2007, 2008; Cicognani, Albanesi & Zani, 2008*). Furthermore the adolescents' three major socialization contexts significantly accounts for well-being in

adolescence. Proper family atmosphere, background (Joronen, 2005; Vera, Thakral, Gonzales, Morgan, Conner, Caskey, Bauer, Mattered, Clark, Bena & Dick, 2008) and good relationship with parents are very important predictors of psychological well-being in adolescence too (Furnham & Cheng, 2000; Gutman, Brown, Akerman & Obolenskaya, 2010) in spite of that other social effects such as peers become more and more important in the youth's life. School as another important socialization context also predicts adolescents' subjective well-being. Social support from classmates and teachers (Vedder, Boekaerts & Seegers, 2005), general satisfaction with school (Joronen, 2005; Gilman, Ashby, Sverko, Florell & Varjas, 2005) are important independent variables of the general well-being in adolescence. Finally, usually good connection with peers and friends also predicts the adolescents' mental well-being. (Kef & Deković, 2004; Oberle, Schonert-Reichl & Zumbo, 2011) but this relationship is not always positive.

Adolescents' psychological well-being is essentially influenced by stress and coping with stress. Lazarus's (1993) transactional coping theory describes the adaptation process, when the individual faces a situation, a psychological stress that temporarily overwhelms, or even consumes his resources. During the primary appraisal the individual appraises the situation regarding his physical and mental integrity and his goals. Thus he can appraise the situation as threatening, or even as irrelevant. During the secondary appraisal the individual evaluates his resources, the controllability of the situation, and the coping strategies by which the situation can be managed. By the age adolescents' coping repertoire broadens in which copings that harmful to health also appear (Field & Prinz, 1997; Williams & McGillicuddy-De Lisi, 2000; Pikó, 2001). Gender also affects the coping style. Girls tends to treat problems by seeking social support, passive or avoidant coping. Contrary to this, boys react to the situation with active solutions, externalizations (Frydenberg, 1997; Pikó, 2001). In a general approach regarding the psychological adjustment and health, problem-focused and active coping strategies can be considered as adaptive, while passive, disengagement coping strategies and in some cases emotion-focused coping strategies as maladaptive actions (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Frydenberg, 2008). Findings show that adaptive coping strategies are primarily associated with health protective behaviours, such as physical activity (Wijndaele, Matton, Duvigneaud, Lefevre, De Bourdeaudhuij, Duquet, Thomis & Philippaerts, 2007; Saklofske, Austin, Galloway & Davidson, 2007), while maladaptive coping strategies are rather associated with health risk behaviours, for example smoking (Wagner, Myers & McInnich, 1999; Catanzaro & Laurent, 2004; Hasking, Lyvers & Carpio, 2011; Siqueira, Diab, Bodian & Rolnitzky, 2000). Peer affects in adolescence predict both health-enhancing (Salvy, de la Haye, Bowker & Hermans, 2012), and health risk behaviours (Tomé, Matos, Simões, Diniz & Camacho, 2012; Bot, Engel, Knibb & Meeus, 2005).

The nature of the automatic thoughts about stressful situation essentially determines the appraisal process, the coping procedure and consequently the psychological well-being too. Those adolescents, who had primarily negative automatic thoughts about an ambiguous social problem, are more likely to suffer from different psychiatric illnesses (Higa & Daleiden, 2008; Hogendoorn, Prins, Vervoort, Wolters, Nauta, Hartman, Moorlag, de Haan & Boer, 2012). On the other hand adolescents' positive automatic thoughts correlated with various indicators of psychological well-being (Wong, 2012). People in social problem situations also differ from one another in their problem orientation. Positive problem orientation consists of appraisal that labels the problem as 'challenge', belief that the problem can be handled, belief about one's ability by which the problem can be solved etc. Negative problem orientation regards problem as a threat to well-being, encourages people to doubt their abilities to solve the problem etc. (Chang, D'Zurilla & Sanna, 2004). Optimism is

associated to positive problem orientation, pessimism to negative problem orientation (*Chang & D'Zurilla, 1996*).

Optimism is one of the central concepts of positive psychology, important health protective factor. It can be defined as permanent personality trait, which usually encourages the person to expect favourable positive outcomes, results of the events (*Scheier & Carver, 1985; Carver, Scheier & Segerstrom, 2010*). According to another approach optimism is a special explanatory style, by which the person for example perceives unfavourable events as temporary, specific, non-global (*Forgeard & Seligman, 2012*). Dispositional pessimism is the opposite of dispositional optimism, e.g. generalized negative expectation about future outcomes. Although optimism seems to be a permanent personality trait, its development is predicted by environmental, social factors too. Adolescents' socioeconomic status (*Heinonen, Rääkkönen, Matthews, Scheier, Raitakari, Pulkki & Keltikangas-Järvinen, 2006*), their good relations with their parents (*Hjelle, Busch & Warren, 1996*), their school achievements (*Ek, Remes & Sovio, 2004*) their positive experiences about school (*Orejudo, Puyuelo, Fernández-Turado & Ramos, 2012*) are all positively associated with their dispositional optimism level. It was showed among adolescents too, that optimism correlated with lower perceived stress, and it was negatively associated with various psychological problems (such as anxiety, depression) (*Huan, Yeo, Ang & Chong, 2006; Ho, Cheung & Cheung, 2010*). On the other hand adolescents' optimism level was positively associated with different indicators of psychological well-being, such as positive self-image, satisfaction with life (*Extremera, Durán & Rey, 2007; Wong & Lim, 2009; Ho et al., 2010*). Optimism also contributes to the maintenance of health and well-being by activating more adaptive copings. Higher dispositional optimism level predicts active coping style, while its lower level predicts avoidant coping style (*Scheier, Weintraub & Carver, 1986; Carver, Scheier & Weintraub, 1989; Chang & D'Zurilla, 1996; Iwanaga, Yokoyama & Seiwa, 2004; Solberg Nes & Segerstrom, 2006*). According to some findings, it can also be concluded, that adolescents' dispositional optimism are in a positive relation with health protective behaviours (*Yarcheski, Mahon & Yarcheski, 2004; Ayres, 2008; Ayres, Atkins & Mahat, 2010*).

Objectives and hypotheses of the empirical research

The research focused around three major issues, hypotheses were proposed according to them:

1. Aforementioned findings suggest that optimism and coping strategies together have a special contribution to well-being. The majority of these results came from surveys on adult population. As far as I know, no other study examined similar issue for adolescents within a synthesized model. First I systematically tested the relationship between optimism, coping strategies and different indicators of well-being. After that I integrated these findings in a path-model, where optimism and coping strategies were predictors and positive and negative indicators of psychological adjustment were the dependent variables.
2. According to *Olah's* (2005) psychological immune system theory optimism is component of the so called approaching-monitoring subsystem. In stressful situation it contributes to the exploration and control of physical and social environment. Taking this together with *Lazarus'* (1993) transactional coping theory I supposed that optimism has an important role in appraisal process of coping. Thus I wanted to examine the relationship of students' optimism and the automatic thoughts that occur during the appraisal of a problematic situation.

3. Apart from optimism and coping, adolescents' well-being is accounted for by social and socioeconomic factors too. I was looking for indicators of the three socialization context, which were significant predictors of students' subjective well-being.

Following hypotheses were tested:

H₁: Adolescents' optimism is only marginally accounted for by social and socioeconomic factors.

H₂: Optimism predicts the odd of more frequent health protective behaviours (physical activity, diet control) and higher psychological well-being (satisfaction with life, self-assessment of health status).

H₃: Optimism predicts the odd of less frequent health risk behaviours (binge drinking, smoking) and lower depression.

H₄: Those adolescents who show health protective behaviour (physical activity, diet control) are significantly more optimistic than those who are not featured with them.

H₅: Those youth who are smokers and drink alcohol are significantly more pessimistic than those who are not characterized by these behaviours.

H₆: In adolescence active, approach coping strategies are positively associated with health protective behaviours (physical activity, diet control), and negatively with health risk behaviours (smoking, alcohol use).

H₇: In adolescence passive, dysfunctional coping strategies are positively associated with health risk behaviours (smoking, alcohol use) and negatively with health protective behaviours (physical activity, diet control).

H₈: In adolescence social coping strategies significantly predict both health protective and health risk behaviours.

H₉: Early adolescents' optimism and approach (or other adaptive) coping strategies correlate with one another in a positive way.

H₁₀: Early adolescents' optimism and passive, dysfunctional coping strategies negatively correlate with one another.

H₁₁: Early adolescents' approach (or other adaptive) coping strategies positively correlate with their satisfaction with life, and conversely with their perceived stress.

H₁₂: Early adolescents' passive, dysfunctional coping strategies positively correlate with their perceived stress, and negatively with their satisfaction with life.

H₁₃: Early adolescents' optimism directly and indirectly predicts their satisfaction with life and perceived stress. Mediators of the indirect way are the coping strategies.

H₁₄: Students' automatic thoughts and emotional reactions to an ambiguous situation were analysed with a qualitative method. I supposed significantly higher rate of positive automatic thoughts and reframing among high optimistic students compared to low optimistic students. I also expected significantly lower rate of negative automatic thoughts for high optimistic students compared to low optimistic students.

In addition social and socioeconomic predictors of adolescents' well-being were explored, but no hypothesis was formed because of the descriptive nature of the analysis.

Sample and procedure of the first and second survey

The first survey was the part of Szeged Youth Study in 2008. The instruments used in this study were only one part of the complex survey (see for more details: *Pikó Bettina: Szegedi Ifjúságkutatás 2000, 2008: Káros szenvedélyek és a depressziós tünet együttes előfordulása serdülők körében*). Data were collected in the first term of 2008 with the participation of 881 persons (ages 14-20 years; mean=16,6 ± 1,3 years; 44,6% female). Students from five randomly chosen high schools completed the questionnaire battery. The sample units were the randomly chosen classes. 900 questionnaires were distributed, response rate was 97,70%. The procedure was supported by trained graduate students and carried out during the form master's class. It was voluntary and anonym.

Data of the second survey was taken from seventh and eighth-form pupils of 2 primary schools in the second term of 2010. Girls' rate was 53,8%, age mean was 13,77 ± 0,71 years. 236 persons took part in the survey. The survey was carried out with the permission of the headmaster and the parents. The form masters and other teachers assured the completion of the questionnaire. The teachers knew only the major objectives of the studies, the future statistical analyses no. The pupils were informed about the assurance of the anonymity and the major objectives of the questionnaire. This information was also presented in a written form at the beginning of the questionnaire. The completion of the questionnaire needed on the average 40-45 minutes, so it covered a typical primary school class. Response rate was 100% every student who was present in the class completed the questionnaire.

Data was analysed by SPSS 15.0 for Windows Release and IBM SPSS Statistics 20.0

Instruments used in the surveys

1. Satisfaction With Life Scale (SWL, *Diener, Emmons, Larsen & Griffin, 1985*) was used to measure subjective well-being.
2. Socioeconomic status was measured by father and mother schooling, and subjective assessment of socioeconomic status. (see *Pikó & Fitzpatrick, 2007*).
3. Parents' support. Satisfaction with mother's and father's support were measured with Measures of Perceived Social Support (*Turner & Marino, 1994*) Sharing problems with parents was examined with the following question: 'How often do you talk with your parents about problems?' Question had to be answered with a five-point scale.
4. Child rearing practice and control. For assessment of child rearing practice we asked: 'How often do you have dinner with your family?' (see *Fitzpatrick, 1997; Kann, 2001; Pikó & Fitzpatrick, 2007*) Parental control was measured with two questions: (1) 'When you go out with your friends, do your parents or guardians know where you are going?' (2) 'When you go out to be with your friends do your parents or guardians set curfew? (tell you when you must be home)' Answers could be given with a frequency scale. Acceptance of parents' values was measured with filial piety scale that consists of 5 items (*Unger, Ritt-Olson, Teran, Huang, Hoffman & Palmer, 2002*).
5. Satisfaction with school. 'How happy are you with school right now?' Answers could be given on a four-point scale.
6. Support from teacher. 'How often do you talk with your teachers about problems?' Answers could be given with a four-point frequency scale.

7. Academic achievement. Students could report with a seven-point scale, that what grades they mostly get in school.
8. Peers. We asked two questions about peers (see *National Survey on Drug Use*, 2002). Students had to answer by writing a number on a dotted line. (1) 'Besides your family members with how many friends do you share your interests or activities?' (2) 'Besides your family members how many good friends do you have, who you really like, and who take care of you?'
9. Optimism. It was measured with Hungarian version of Life Orientation Test (LOT, *Scheier & Carver, 1985*).
10. Health protective and health risk behaviours. Frequency of physical activity and diet control (*Luszczynska, Gibbons, Piko & Tekozel, 2004* alapján), and frequency of smoking, alcohol use and binge drinking (*Kann, 2001* alapján) were examined with the following questions: (1) 'How much during the PAST 3 MONTHS did you try to maintain a healthy diet?' (2) 'How many times during the PAST THREE MONTHS did you engage in strong physical activity (work, sport) for at least a half hour?' (3) 'How many times in the PAST 3 MONTHS did you smoke cigarettes?' (4) 'How many times in the PAST 3 MONTHS did you drink alcohol?' (5) 'How many times in the PAST 3 MONTHS did you drink greater amount (more glasses of) alcohol?' Answers always had to be given on a six-point frequency scale.
11. Self-assessment of health. The youth answered the following question with a four-point scale: 'How do you perceive your health compared to your peers?'
12. Depression. Brief form of *Children's Depression Inventory* (CDI, *Kovacs, 1992*) of 27 items was used.
13. Perceived stress. The variable was measured with Perceived Stress Scale (PSS, *Cohen, Kamarck & Mermelstein, 1985*).
14. Adolescent coping. Frequency of coping strategies was measured with Adolescent Coping Scale (*Frydenberg & Lewis, 1993*). The 18 subscales can be assigned to 3 larger groups, representing different coping styles (coping strategies are in parenthesis):
 - Solving the problem (Seeking social support, Focus on solving the problem, Physical recreation, Seek relaxing diversions, Investing in close friends, Seek to belong, Work hard and achieve, Focus on the positive);
 - Reference to others (Seek social support, Seek spiritual support, Seek professional help, Social action);
 - and Nonproductive coping (Worry, Seek to belong, Wishful thinking, Not coping, Ignore the problem, Tension reduction, Keep to self, Self-blame).

The scale is in the validation phase, so its results can be considered as a pilot study.

15. Positive thinking. The task I used to assess children's automatic thinking was originally the part of Best of Coping intervention programme. (*Frydenberg & Brandon 2002*). The practice tells a conflict: the narrator and a friend made an appointment to watch together a movie, but the friend does not arrive to the screening. Moreover, a common acquaintance tells that she saw him laughing with another group of children. Students have to assess, that in this situation what their first thought and emotion would be. Then they get three different explanations about what really happened. According to the first explanation the friend misses the movie, because he prefers to have a pizza with the other group. In the second version the friend accidentally goes to an earlier screening. In the third situation the friend's brother tells

to the narrator, that their mother had an accident, and the friend went to the hospital with her.

Main results and discussion

My first question was that whether adolescents' optimism can be affected by social factors. Possible social predictors of optimism were examined with multivariate linear regression analysis. Father schooling ($\beta=0,14$; $p<0,001$), sharing problems with parents ($\beta=0,17$; $p<0,001$) and satisfaction with school ($\beta=0,09$; $p<0,01$) significantly accounted for the variance of optimism. Power of the model was rather low (15%) which was consistent with the prior hypothesis (H_1). The result suggests that optimism could be developed by particular factors from students' socialization contexts, but the effect would be small. (Of course the converse causality can also be true but less plausible: the optimism influences these factors).

Most of my results referred to the health protective nature of optimism. Findings stem from logistic regression analysis also suggested this, and supported some presumptions too (H_2 - H_3). In the case of health risk behaviours and CDI scores odd ratio (OR) less than 1 reflected health protective effect, in the case of health protective behaviours, SWL score, perceived health status OR higher than 1 meant health protective effect. LOT significantly predicted binge drinking (OR=0,97; $p<0,05$); physical activity (OR=1,05; $p<0,001$); diet control (OR=1,07; $p<0,001$), less CDI score (OR=0,85; $p<0,001$) higher SWL score (OR=1,35; $p<0,001$), and better assessment of health status (OR=1,18; $p<0,001$). These findings show that dispositional optimism is positively associated with health indicators, and negatively related to health risk indicators. Furthermore H_4 and H_5 were partly confirmed by a two way ANOVA (with gender x health behaviour arrangement) I ran on optimism and pessimism scores computed from LOT. In consistent with H_4 those students who had done physical activity had higher dispositional optimism, than those who had not done any exercise in the examined period (Physical activity main effect: $F(1, 842)=9,3$; $p<0,05$), and this was a stronger effect in the case of boys (Physical activity x Gender interaction: $F(1, 842)=5,0$; $p<0,05$). Those who did diet control had higher optimism, than those who did not take care of their regimen, which also supports H_4 (Diet control main effect: $(F(1, 840)=13,4$; $p<0,001$). Finally, it indirectly and partly confirmed H_4 hypothesis that girls who had not drunk alcohol in the examined period, had significantly higher dispositional optimism, than girls who had consumed alcohol. The opposite tendency among boys contradicted to H_4 , where alcohol drinkers had significantly higher optimism score than non-drinkers, although the mean difference was marginal (Alcohol use x Gender interaction: $(F(1, 840)=4,5$; $p<0,01$). In consistent with H_5 students who had been smoking in the last three months before the survey were significantly more pessimistic, than those who had not been smoking in that period (Smoking main effect: $F(1, 828)=7,9$; $p<0,01$).

Hypotheses about the relationship of health behaviours and coping strategies (H_5 - H_8) were examined with multivariate regression analysis. Predictors were the frequencies of coping strategies, dependent variables were health risk and health protective behaviours. On the total sample Invest in close friends coping was positive ($\beta=0,24$; $p<0,01$), Work hard and achieve was negative ($\beta=-0,15$; $p<0,05$), on boys' sample Work hard and achieve was negative ($\beta=-0,23$; $p<0,05$), Invest in close friends was positive ($\beta=0,22$; $p<0,05$), on the girls sample Invest in close friends ($\beta=0,25$, $p<0,01$) and Seek professional help were positive ($\beta=0,17$; $p<0,05$) predictors of smoking. On the total sample Invest in close friends was positive ($\beta=0,24$; $p<0,001$), on the boy's sample Invest in close friends was also positive ($\beta=0,25$; $p<0,01$), on the girls sample Keep to self ($\beta=0,24$; $p<0,01$) and Worry ($\beta=0,18$, $p<0,05$) were positive predictors of the frequency of alcohol use. On the total sample Physical

recreation positively ($\beta=0,61$; $p<0,001$), Worry negatively ($\beta=-0,11$; $p<0,05$), on the boys sample Physical recreation positively ($\beta=0,57$; $p<0,01$), Wishful thinking negatively ($\beta=-0,16$; $p<0,05$), on the girls sample Physical recreation ($\beta=0,73$; $p<0,01$) and Invest in close friends positively ($\beta=0,17$; $p<0,05$) predicted the frequency of physical activity. Finally on the total sample Physical recreation ($\beta=0,22$; $p<0,01$), Focus on solving the problem ($\beta=0,12$; $p<0,05$), Seeking social support ($\beta=0,15$; $p<0,05$) were positive, Not coping ($\beta=-0,15$; $p<0,05$) were negative predictors of diet control. On the boys sample Work hard and achieve ($\beta=0,29$; $p<0,01$) and Focus on solving the problem ($\beta=0,20$; $p<0,05$) were positive predictors of diet control. On girls' sample Physical recreation ($\beta=0,30$; $p<0,01$), and Seek spiritual support ($\beta=0,17$; $p<0,05$) were positive Not coping was negative ($\beta=-0,24$; $p<0,01$) predictors of this dependent variable. Summing up these results, they confirm that problem-focused, active coping strategies (such as Work hard and achieve) are negatively related to health risk behaviours and positively to health protective behaviours. Results also prove that passive, dysfunctional coping strategies (such as Worry) are negatively associated with health protective behaviours, while positively with health risk behaviours. Finally social copings (such as seek friend's support) can predict both more frequent health protective and more frequent health risk behaviour. Low powers of the models are important limitations of the study. Other findings about coping strategies proved (H_9-H_{10}) that adolescents' optimism had a positive correlation with approach (or other adaptive) coping strategies (e.g. Hard work and achieve, Focus on solving the problem etc.) and a negative correlation with dysfunctional coping strategies (e.g. Worry, Not coping etc.). Furthermore, students' approach coping strategies positively correlated with their SWL, and negatively with their PSS. The opposite was true for dysfunctional coping strategies: they had a positive correlation with PSS and negative with SWL ($H_{11}-H_{12}$).

I synthesized these findings with a path-model, where positive (SWL) and negative (PSS) indicators of psychological well-being were the dependent variables. Path-analyses confirmed the two models in which LOT predicted SWL and PSS both in a direct and an indirect way. Mediator analyses showed that relationship of LOT and psychological well-being indicators were partly mediated by particular coping strategies. LOT was significant positive predictor of Hard work and achievement and Physical recreation. These coping strategies positively predicted SWL. LOT was negative predictor of Worry, which accounted for SWL in a negative way (see **Figure 1.**). Only Hard work and achievement and Worry were significant mediators of the LOT-SWL relationship. This result suggests that optimism besides its direct effect, enhances satisfaction with life by increasing the frequency of adaptive coping strategies and decreasing the probability of dysfunctional coping strategies. (Of course the converse causality is also plausible.) In the other model LOT was significant negative predictor of Worry, Self-blame, and Not coping. These dysfunctional coping strategies were positive predictors of PSS, and all of them proved to be significant mediators of LOT-PSS relationship (see **Figure 2.**). This model might reflect that apart from its direct effect, optimism decreases perceived stress by decreasing the frequency of those dysfunctional coping strategies that would increase the perceived stress level. (Here again the opposite causality can be also accepted).

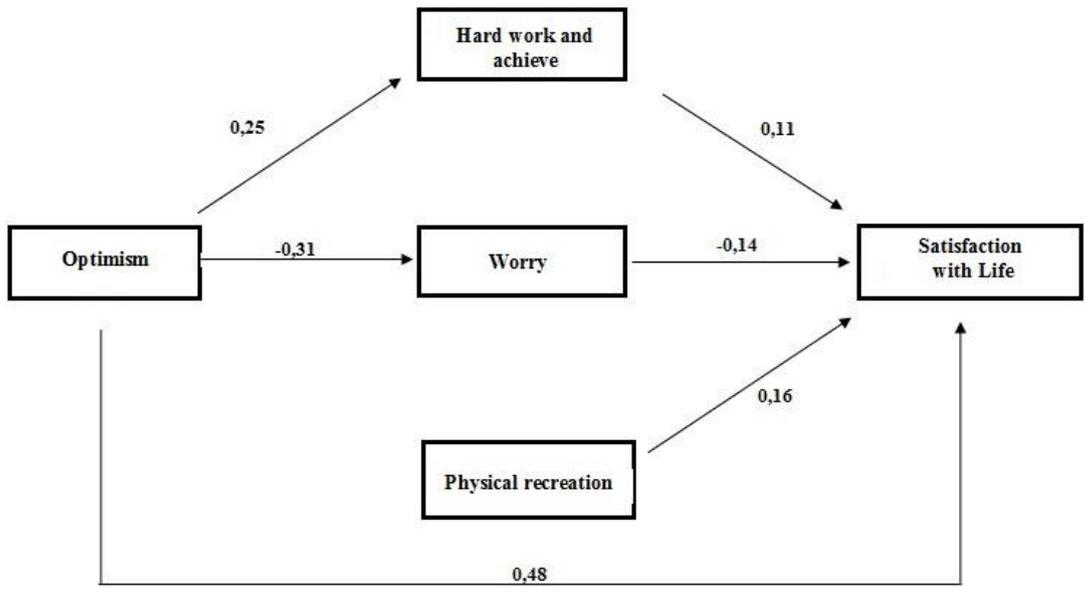


Figure 1. Path-model of optimism, coping strategies and satisfaction with life. Beta coefficients are on the arrows.

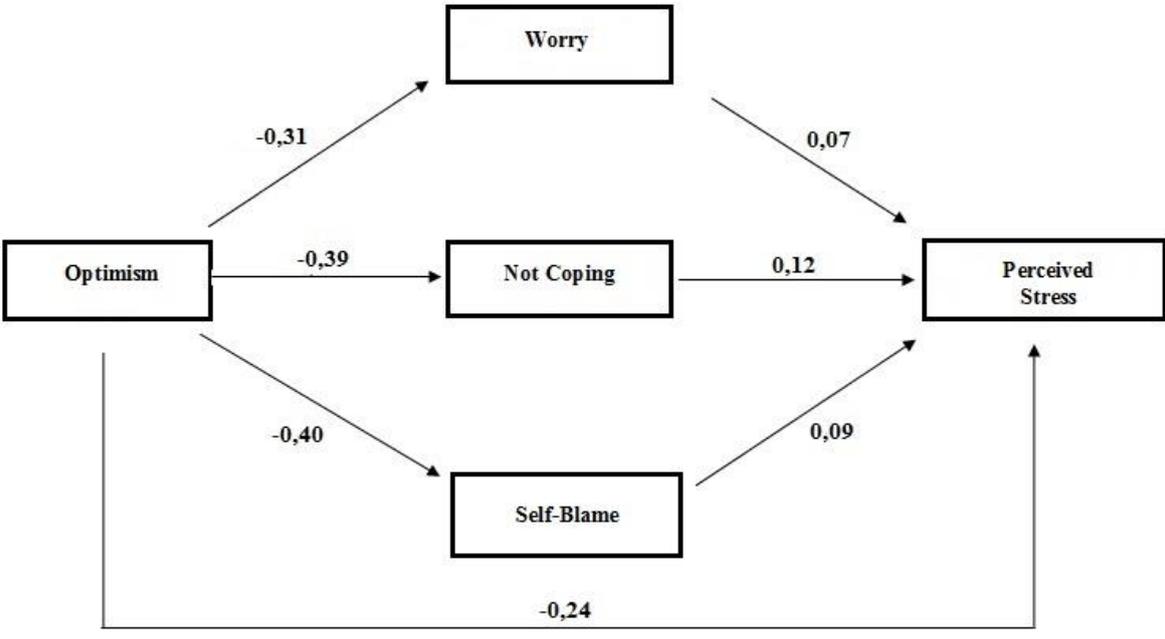


Figure 2. Path-model of optimism, coping strategies and perceived stress. Beta coefficients are on the arrows.

Thus path-analysis showed that optimism partly indirectly predicted the psychological well-being indicators, and it was mediated by coping strategies. This might be due to that optimism as part of approaching-monitoring subsystem (Oláh, 2005) is strongly associated with appraisal processes. I wanted to test this presumption (H_{14}) with a qualitative analysis, where students described their very first automatic thoughts and feelings about an ambiguous social problem situation and its three different explanations. Students' responses could be assigned to three major categories. Negative automatic thoughts reflected anger, aggression, disappointment or disapproval of friends' behaviour in the story. Positive automatic thoughts and reframing reflected to other, less obvious aspects of the situation, for example referred to friends' sincerity; support; constructive problem solving. Neutral responses were just simple paraphrases of the story. H_{14} was just partly confirmed. With χ^2 test I found significant relationship between optimism and the quality of the automatic thoughts only in one of the situations ($\chi^2(4)=9,44$, $p<0,05$). Thus here we can state that the most optimistic students gave significantly more positive reframing and significantly less negative automatic thoughts than either the least optimistic or the moderately optimistic ones. Furthermore moderately optimistic pupils reported significantly more positive reframing than the least optimistic students, and reacted with significantly less negative automatic thoughts, than low optimistic pupils. Maybe I found significant relationship between optimism and the rate of the responses only for these story version, because here the friend's behaviour seem to be deliberate (instead of going to the negotiated appointment, he has a pizza with other friends).

Finally other predictors of adolescents' well-being were tested with multivariate linear regression analyses on total sample, and on girls' sample and on boys' sample separately. Predictors of the models were socioeconomic variables, parent and family-related indicators, variables of school life, and peer-related indicators. Dependent variable was the adolescents' SWL score. On the total sample predictors accounted for 37% of the variance of adolescents' SWL score (constant=-3,53; $p<0,05$). All of the parent-related indicators were significant predictors: social support from father ($\beta=0,11$; $p<0,001$), social support from mother ($\beta=0,11$; $p<0,01$), dinner with family ($\beta=0,10$; $p<0,01$), talking about problems with parents ($\beta=0,15$; $p<0,001$), parents set a curfew ($\beta=-0,07$; $p<0,05$), parents know where their child is ($\beta=-0,08$; $p<0,05$), filial piety ($\beta=0,10$; $p<0,05$). Among the socioeconomic variables father's schooling ($\beta=0,09$; $p<0,05$), and socioeconomic status self-assessment ($\beta=0,22$; $p<0,001$) were proved to be significant predictors. These variables alone accounted for 33% of the variance. The school-related variables did not really improve the power of the model: academic achievement ($\beta=0,09$; $p<0,01$), and being happy with school ($\beta=0,16$; $p<0,001$). Peer-related indicators were not proved to be significant. The power of the model for boys was 39% (constant=-3,63; n.s.). Social support from father ($\beta=0,11$; $p<0,001$), social support from mother ($\beta=0,10$; $p<0,05$), dinner with family ($\beta=0,15$; $p<0,01$), talking about problems with parents ($\beta=0,12$; $p<0,05$), socioeconomic status self-assessment ($\beta=0,21$; $p<0,001$), academic achievement ($\beta=0,12$; $p<0,05$), being happy with school ($\beta=0,16$; $p<0,001$) were significant predictors. For girls the power of the model was 41% (constant=-5,09; $p<0,05$). Talking about problems with parents ($\beta=0,21$; $p<0,001$), parents set a curfew ($\beta=-0,11$; $p<0,05$), parents know where their child is ($\beta=-0,15$; $p<0,01$), filial piety ($\beta=0,15$; $p<0,01$), father's schooling ($\beta=0,12$; $p<0,05$), socioeconomic status self-assessment ($\beta=0,26$; $p<0,001$), academic achievement ($\beta=0,10$; $p<0,05$), being happy with school ($\beta=0,15$; $p<0,01$), friends who really take care of her ($\beta=0,11$; $p<0,05$) were significant predictors. Results show that socioeconomic status and mainly socioeconomic status self-assessment was relevant in all conditions. Furthermore, primarily family and parent-related variables contributed to the power of the models. It refers to that family factors remain relevant for adolescents' well-being, despite the reorganization of the social relationships. For boys, significant family-

related predictors referred to a supportive family climate. In the case of the girls variables related to parental control were significant independent variables, but these were negatively associated with satisfaction with life. School-related indicators played less important role in the models, and the number of friends who were taking care was significantly accounted for the dependent variable only in the girls' sample.

Conclusions

These empirical results might suggest some possible guidelines for health promotion programs in school. First of all, it is worth to develop adolescent's optimism somehow, because it is directly associated with favorable well-being indicators. Some social and socioeconomic factors were significant predictor of adolescent's optimism however the power of the model was relatively low. These variables might be used to increase optimism if we presume the causality that they influence optimism. In this regard, maybe support from parents, parent's openness toward the youth can be the most important, most controllable factor.

Development of optimism can be carried out on cognitive level too. Results of the qualitative survey partly give an empirical support to this effort. In a particular situation significant relationship was found between students' optimism and their automatic thoughts about a social problem. For that situation the most optimistic youth gave the highest rate of positive reframing and the lowest rate of negative thoughts, while the least optimistic students described the majority of the negative automatic thoughts and the fewest positive automatic thoughts. Now there are already some pioneer methods that try to enhance students' optimism by exploiting the relationship of optimism and thinking patterns. For example *Penn Resiliency Program* (2014) is a special curriculum for adolescent students. Among others it contains several strategies by which students can understand relationship between their thoughts and emotions they can challenge their negative automatic thoughts and consequently form an optimistic explanatory style. The basis for development of positive, optimistic thinking can be provided by *Kasik László's* (2010) work, who analysed the age differences of different problem orientation and solution in his dissertation.

According to the findings a health promotion program for teenagers should include an education about the dangers of passive, dysfunctional coping strategies (primarily Worry, Not coping, Self blame) too. This can be important for two reasons. First, by mitigating these coping strategies the probability of health risk behaviours can also be reduced. On the other hand if adolescents less likely tend to ruminate uselessly, worry passively etc., they will have a better subjective well-being and can handle more effectively the stress results from the situation. Of course in a health promotion programme alternatives need to be offered in place of dysfunctional coping strategies. Reducing the risk is not enough, the remaining 'vacuum' has to be filled with some solutions. According to the results approach coping strategies can serve as such kind of solutions. Work hard and achieve coping can be highlighted, because it was significant predictor in many conditions. This coping expresses that the student tries to solve emerging problems by insistence, industry, 'changing up'. This coping has an integral relationship with mastery and learning motivations, and possibilities of their application in education are examined by *Józsa Krisztián* (2002) in Hungary. It is important that learning motivation reduce by age (*Józsa Krisztián*, 2000), although the preservation of such kind of motivation could be the base of an adaptive, approach coping style too. It would encourage the youth to solve the problem, and would indirectly contribute to their subjective well-being too.

A health promotion program for teenagers also should take into consideration the ambivalent nature of peer's influence. Girls' satisfaction with life was directly predicted by the number of friends who took care of them, although the effect was not too salient. Moreover for girls seeking friend's support as coping (Invest in close friends) also predicted physical activity. Thus in the case of girls peer influence seems to have an advantage for health. Nevertheless in many conditions friends' support as coping accounted for the frequency of health risk behaviour too. I think that employing peers could significantly support adolescents' health prevention. Skilled peers could promote for example the establishment of a norm against the health risk behaviours within the school or classroom community (*Oktatási Minisztérium, 2004*). Many times development of unhealthy habits is motivated by the need for being part of a group where group norm requires the formation of such kind of health risk behaviours. (*Meleg Csilla, 2002*). This process would be reversible if the youth's common experiences, norms supported the rejection of these health risk behaviours.

Besides optimism and coping, particular aspects of the three socialization context are also closely connected to adolescents' well-being. Results that revealed these predictors can be offered to social policy makers. As we could see adolescents' satisfaction with life was mostly predicted by their societal positions. Regarding the youth's mental well-being, more efficient solution of societal cohesion, and the assurance of societal equal opportunity is crucial. These findings also showed that the different parent-related variables are also associated with the youth's subjective well-being. Thus proper family background (for example parental support) can even compensate the disadvantages of societal position. One limitation of this analysis is that besides family and socioeconomic variables relatively few school-related variables were taken into the models. Nevertheless it is obvious that only general satisfaction with school and academic achievement accounted significantly for the youth's subjective well-being, support from teachers did not prove to be a significant predictor. I think this is an unexploited social resource, particularly if we take into consideration that the children spend considerable part of their time in school.

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