

COPING STYLES USED FOR MEDIATION DENTAL ANXIETY AND STRESS IN SCHOOL CHILDREN

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ABSTRACT

The ability to adapt to stress and adversity is a central facet of human development. Coping can be defined as a set of cognitive and affective actions that arise in response to a particular disquiet.

The aim of this research was to evaluate coping patterns used to mediate anxiety and stress level in two groups of patients: orthodontic and dental.

Psychometric instruments applied in the research are: Sarason's anxiety questionnaire, Stress-test for children, as well as A-Cope questionnaire.

Obtained scores confirmed important level of anxiety, and moderate stress level. It was shown that coping mechanisms used for moderate stress and anxiety were productive and influenced the scores for the stress level and anxiety to be diminished.

As far as our knowledge is concerned, this is the first study for coping styles in children in our country.

Keywords: stress, anxiety, coping, children, dental setting

INTRODUCTION

Stress is part of life and practically every child is exposed to different stressful situations. The ability to adapt to stress and adversity is a central facet of human development. Successful adaptation to stress includes the ways in which individuals manage their emotions, think constructively, regulate and direct their behavior, control their autonomic arousal, and act on the social and nonsocial environments to alter or decrease sources of stress. These processes have all been included to varying degrees within the pattern of coping (Compas et al., 2001; Lazarus, 1993).

Coping can be defined as a set of cognitive and affective actions that arise in response to

a particular disquiet. They represent an attempt to restore the balance or remove the turbulence for the individual. The result may be solving the problem (removing the concern) or accommodating the worry without bringing about a solution.

From the basic research, coping could be explained as a consequence of more general processes of self-regulation of emotion, cognition, behavior, physiology, and the environment (Eisenberg, Fabes, & Guthrie, 1997; Skinner, 1995). From a more applied perspective, coping could be explained as a result of two aspects. Firstly, psychosocial stress appears to be a significant and pervasive risk factor for psychopa-

thology in childhood and adolescence (Grant, Compas, Thurm, McMahon, & Ey, 2000). In this context, the ways in which children and adolescents cope with stress are potentially important mediators and moderators of the impact of stress on the psychopathology. Secondly, a wide range of psychological interventions used for the treatment and prevention of psychopathology are designed to enhance the coping skills of children and adolescents (Clarke et al., 1995; Kendall et al., 1997).

The development of characteristic ways of coping in childhood may be a precursor of patterns of coping throughout adulthood and in this point it is a very important issue. However, research on coping during childhood and adolescence has lagged behind similar research concerned with adaptation to stress during adulthood (Compas, Connor, Saltzman, Thomsen, & Wadsworth, 1999).

Similarities and differences in coping as a function of age should help to define the developmental course of coping (Cocoradă et al., 2012). Individual-differences factors (e.g., gender, socioeconomic status) may influence patterns of coping. However, in spite of the fundamental importance of understanding age effects and individual differences in coping, research in these areas has been disappointing, primarily as a result of problems in the conceptualization and measurement of coping.

Coping is linked with several aspects of temperament, including the constructs of reactivity and self-regulation. A reactivity comprises some individual differences in physiological and emotional responses to stress. Physiological reactivity includes the threshold, dampening, and reactivation of autonomic arousal (Boyce, Barr, & Zeltzer, 1992; M. Lewis, 1989).

Individual differences in reactivity and temperament are expected to be related to coping, because they affect the individual's initial automatic response to stress and may constrain or facilitate certain types of coping responses (Compas, 1987).

Additionally, coping is related to some aspects of self-regulation. The physiological arousal, behavior, and emotions can be regulated from the beginning of the life, in the period of infancy (Gunnar, 1994; Rothbart, 1988, 1991). This regulation is achieved initially through involuntary, biologically based processes. During the maturation and cognitive development cop-

ing will be related to the responses to stress that involve volition, effort, and conscious control (Blass & Ciaramitaro, 1994).

From the practical aspect, coping styles can be assumed as productive or non-productive. Productive coping styles include problem solving through physical activity and socially connected actions. This style comprises:

- Sharing the problem with others and enlisting support in its management
- Reflecting on the problem, planning solutions and tackling the problem systematically
- Physical recreation
- Seek relaxing leisure activities (not sport) either alone or with others
- Invest in close friends
- Work hard and achieve
- Maintaining a positive and cheerful outlook on the current situation
- Accepting one's best efforts and that there is nothing further to be done
- Letting others know what is of concern and enlisting support by organising an activity
- Seek professional help.

Nonproductive coping comprises the use of avoidance strategies generally associated with an inability to cope with stressors. It includes:

- Worrying (being concerned about the future in general terms and with happiness in the future)
- Hoping and anticipating a positive outcome
- Being unable to deal with the problem and developing psychosomatic symptoms
- Making oneself feel better by releasing tension
- Ignoring the problem
- Withdrawing from others and desiring to keep others from knowing about your concerns
- Criticising oneself for being responsible for the concern or worry
- Making oneself feel better.

The evaluation of the coping patterns in children and adolescents can be realized by using self-report questionnaires, semi-structured interviews, direct observations of behavior, and, by the reports of significant other persons (parents, teachers, and peers). In the previous period,

most conceptualizations of coping were based on models of coping known in adults and lacked a strong developmental component. Similarly, most measures of coping have been developed for adults and applied to children and adolescents with little or no modification. However, now, the researchers need more available psychometric instruments for evaluation of the coping mechanisms in the developmental period of life.

The main four factors which can be identified for coping strategies are: (1) coping focalized on the problem (including the following coping strategies: affective approach, planning and deletion of concurrent activities); (2) coping focalized on emotions (positive interpretation and growth, abstention, acceptance and religious approach); (3) coping focalized on search for social support (use of the social-instrumental support, the social-emotional support and focalizing on expressing emotions) and (4) avoidance coping, for the problem or the associated emotions (denial, mental and behavioral deactivation).

The aim of this paper is to evaluate coping patterns used for mediation anxiety and Stress level in two groups of patients: children with orthodontic and with ordinary dental problems.

SUBJECTS AND METHODOLOGY

The evaluated sample comprises two groups of schoolers: a) children with orthodontic problems (anomalies in shape, position and function of dento-maxillo-facial structures) ($N = 30$, mean age 10.3 ± 2.02 years); and b) children with ordinary dental problems ($N = 30$, mean age 10.3 ± 2.4 years). Both genders are presented equally. Examinees were selected by chance. Prior consent was obtained by mothers.

Three psychometric instruments were used in this research: for assessing anxiety level, the Sarason's General Anxiety Scale was used. Stress test for children was used for obtaining the level of stress. A-Cope questionnaire was used for assessing the coping style.

The A-COPE (Patterson & McCubbin, 1987) we used in this research is a coping inventory designed to explore children coping behaviors that result from the normal children stress associated with trying to create a balance between being connected to and at the same time independent from one's family. The coping in-

ventory identifies the behaviors children find helpful in managing problems or difficult situations. The A-COPE can be used as one single scale or broken into 12 sub-scales that reflect 12 different coping patterns: (1) ventilating feelings (like yelling and blaming), (2) seeking diversions (like sleeping or watching TV), (3) developing self-reliance and optimism (like organizing his/her life), (4) developing social support (like helping others solve their problems), (5) solving family problems (like working through family rules), (6) avoiding problems (like substance use or ignoring the problems), (7) seeking spiritual support (like talking to clergy), (8) investing in close friends (like boyfriends or girlfriends), (9) seeking professional support (like getting help from a counselor), (10) engaging in demanding activity (like strenuous physical activity or academically challenging activity), (11) being humorous (like making a joke of the situation), and (12) relaxing (like listening to music).

Obtained results are presented in graphics and tables. Statistic parameters are calculated using Statistica package 8.

RESULTS

Obtained scores from questionnaires confirmed the presence of important level of anxiety in both groups as well as moderate stress level. From the Sarason's test, the obtained scores for the group with dental problems were 20.63 ± 8.37 (from max 45); and for the Stress test 7.63 ± 3.45 (from max 20); for the orthodontic group the obtained scores were 18.66 ± 6.85 for the Sarason's test, while for the Stress test 7.76 ± 3.78 . (Table 1)

Table 1. Obtained test's results in both groups

Dental patients	Orthodontic patients	Test
20.63 ± 8.37	18.66 ± 6.85	Sarason's anxiety test
7.63 ± 3.45	7.76 ± 3.78	Stress-test

We suppose that the level of anxiety/stress was not so high as a result of productive coping styles used by children in dental setting, as well as the education in primary school for the need of dental health.

Obtained results for A-Cope test are presented below. Fig. 1 presents obtained scores for all 56 questions in A-Cope test.

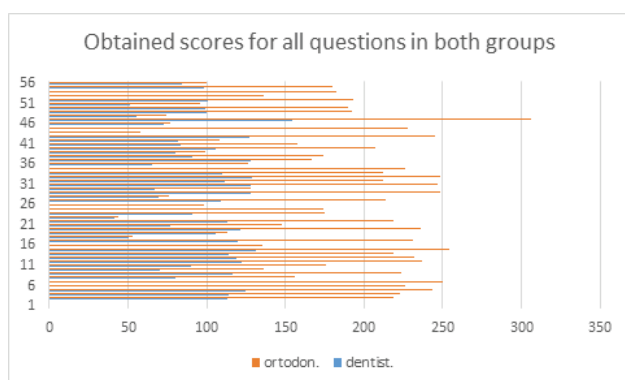


Figure 1. Scores for all questions in both groups

Fig. 2 presents total test scores obtained for both groups.

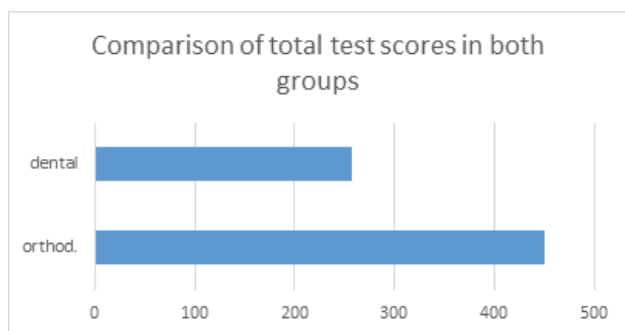


Figure 2. Total test scores for both groups

Fig. 3 presents some basic parameters for the group of orthodontic patients, while Fig. 4 presents the same parameters for the dental group of examinees.

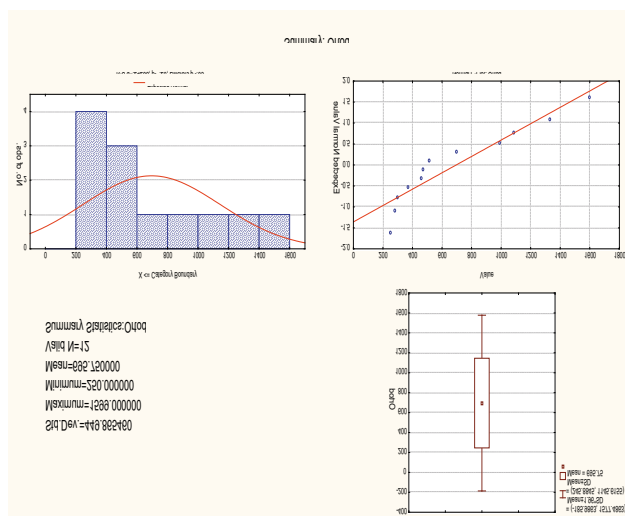


Figure 3. Basic parameters for the orthodontic group

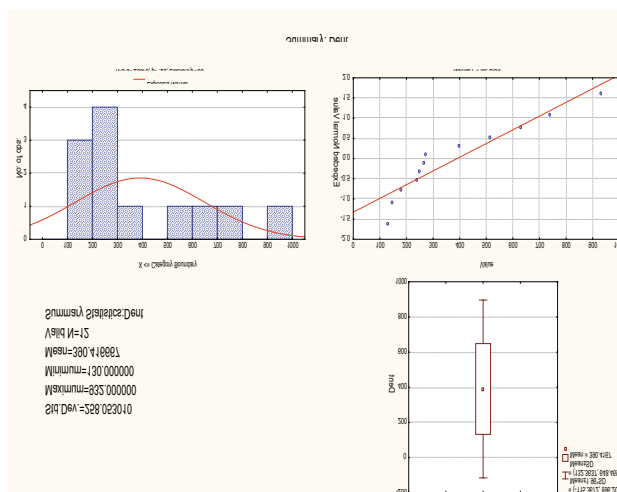


Figure 4. Basic parameters for the dental group

Comparison of mean values and standard deviations for both groups obtained from the A-Cope questionnaire are presented in Fig. 5.

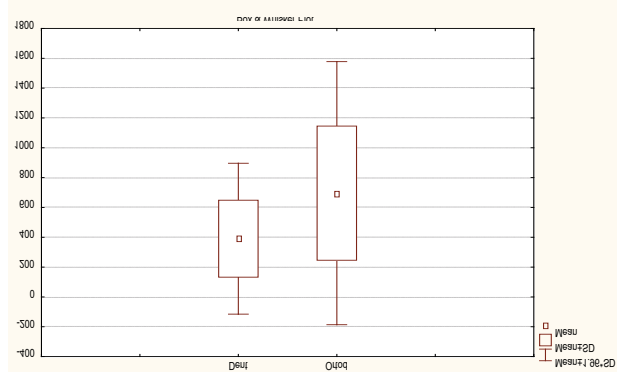


Figure 5. Mean values for obtained scores in both groups

Calculated t-test for mean values and standard deviation of scores for Sarason's anxiety test in both groups is $p=0.05$.

Figure 6 presents scores obtained for selected 12 coping patterns in both groups of examinees.

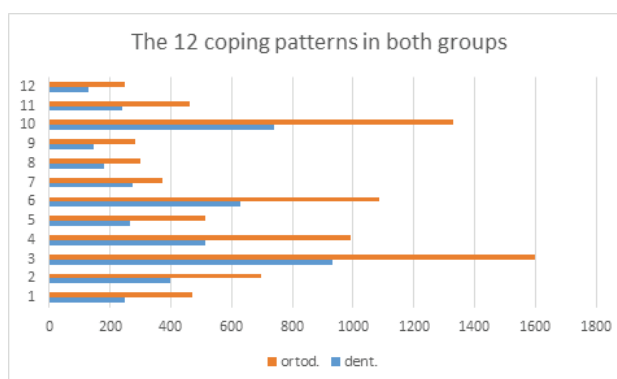


Figure 6. Selected 12 patterns of coping in both groups

Obtained results from the A-Cope test confirm better coping mechanisms in the group of orthodontic patients compared to the dental's one. Calculated t-test is significant ($p = 0.05$).

In both groups the most important patterns used for stress relief are: developing self-reliance and optimism (3), avoiding problems (6) and engaging in a demanding activity (10). Additionally, pattern 4 (developing social support, like helping others solve their problems) is also present in the group of orthodontic patients, while in the dental group the 6th type (avoiding problems, like eating, or ignoring the problems) is also used.

Having in mind that this is the first use of the A-Cope test in our country, we cannot compare our results with other obtained for similar age and gender. However, we can conclude that generally, our school children confronted with stress and anxiety in dental settings develop productive coping patterns.

DISCUSSION

Research on coping during childhood and adolescence is characterized by its focus on how children deal with actual stressors in real-life contexts. A cited review concerning the coping strategies has collected more than 400 different category labels (Skinner, & Zimmer-Gembeck, 2007).

Some researches show that gender is an important variable which can dictate the preference of one coping strategy over another. In that context, it was shown that women use a larger range of coping strategies as compared to men (Cicognani, 2011). In other studies it was showed that boys prefer active strategies, but there were no significant differences between boys and girls as far as the emotional focused strategies are concerned (Folkman, & Lazarus, 1980). Our examinees were matched by age and gender, so we did not find such differences.

The researches focused on age difference suggest that, in primary school, the coping strategies are mostly emotional, while during adolescence they diversify, thus becoming more effective (Compas et al., 2001).

Carver et al., (2011) point out that personality traits are important for the type of coping. In this context optimism, extraversion, conscientiousness, and openness are more involved in engagement coping; while neuroticism in more

disengagement coping and optimism, conscientiousness, and agreeableness in less disengagement coping. Personality and coping play both independent and interactive roles in influencing physical and mental health.

Coping and other stress responses can be expected to follow a predictable developmental course; some aspects of involuntary stress response processes are in place at birth and therefore precede the development of voluntary coping processes. Early voluntary coping efforts may be oriented toward palliating negative emotions through primarily behavioral means, including seeking support and soothing from others, behavioral withdrawal from threat, and use of tangible objects for soothing and security (Gunnar, 1994). With increasing cognitive skills in early adolescence, a greater ability to match coping efforts to the perceived or objective characteristics of stress is expected.

In the literature, a small number of instruments for the observation of coping behaviors and obtaining the reports of significant others have been reported. Observational methods possess adequate reliability and appear to be a promising approach to assessing microlevel responses in specific situations.

A large body of theory and research has accumulated on the nature, characteristics, and correlates of coping during childhood and adolescence. It is pointed that some types of emotional regulation are clearly associated with better adjustment and others are associated with poorer adjustment. Factors which are selected in the most used questionnaires for coping types are: problem focused coping, emotion focused coping, social support focused coping, and avoidance coping. Our results of this research confirm these findings. Coping patterns such as: developing self-reliance and optimism (3); avoiding problems (6) and engaging in a demanding activity (10), pattern 4 (developing social support, like helping others solve their problems), and type 6 (avoiding problems, like eating, or ignoring the problems) are compatible with the mentioned four main coping types.

CONCLUSION

- The ability to adapt to stress and adversity is a central facet of human development.

- Coping can be defined as a set of cognitive and affective actions that arise in response to a particular concern.

- In evaluated samples, the anxiety level is important, but the level of stress is moderate.

- Coping systems used by children are productive and it can be the reason for relatively smaller anxiety and stress scores.

- Main patterns of coping in our sample are: developing self-reliance and optimism (3); avoiding problems (6) and engaging in a demanding activity (10).

- Future research with a larger sample is needed.

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Резиме

СТИЛОВИ ЗА СПРАВУВАЊЕ КОРИСТЕНИ ЗА СМАЛУВАЊЕ НА ДЕНТАЛНАТА АНКСИОЗНОСТ И СТРЕСОТ КАЈ ШКОЛСКИТЕ ДЕЦА

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Способноста да се адаптира на стресот и непријатностите претставува централен аспект на хуманиот развој. Копинг (справување) се дефинира како група на когнитивни и афективни реакции кои се јавуваат како одговор на специфична вознемиреност.

Цел на ова истражување е проценка на разните системи на справување заради ублажување на анксиозноста и стресот кај две групи испитаници: ортодонтски и дентални.

Применети се следните психометриски инструменти: Сарасонова скала за анксиозност, Стрест-тест за деца и А-Соре прашалник.

Добиените резултати укажуваат на значајно ниво на анксиозност и умерен стрес. Покажано е, дека справувачките механизми за анксиозност и стрес се продуктивни и влијаат на намалување на скорите за анксиозноста и стресот.

По наше сознание, ова е прва студија за системите за справување кај децата изведена во нашата земја.

Клучни зборови: стрес, анксиозност, деца, справување (копинг), стоматолошки ординации.