

Profiles of coping strategies used by dyslexic student at university level Perfiles de estrategias de afrontamiento utilizadas por estudiantes disléxicos a nivel universitario

Pedro Cardona¹, Cesar Velázquez¹, Julio Ponce¹, Jaime Muñoz¹, Francisco Álvarez¹, and Guillermo Domínguez¹

¹Universidad Autónoma de Aguascalientes, México
Avenida Universidad # 940, C.U., 20131
{jpcardon.vace555.jma_uua.fjalvar.guido}@correo.uaa.mx

Fecha de recepción: 6 de agosto de 2025

Fecha de aceptación: 4 de diciembre de 2025

Summary. This work is about an analysis of coping strategies at school from dyslexic students, coping strategies are answer mechanism that people use to manage stress and demanding situations, firstly demanding situations are detailed and categorized in order to extract profiles which will be used to enhance the design and implementation of remedial interventions at school. We did work with a representative set of 20 people, 7 dyslexic students and 13 regular students, in order to collect information, we use a modified set of questions of Singer's instrument which was used in academic failure research, we extend an another dimension of data in the cases of questions with answers that becomes dependent, in this case a new question was asked: "describe this dependence", this information become relevant in the extract profiles activity. Findings: this study confirm the two-way value (positive and negative) of main sources of demanding situations to coping, which are family, school and schoolmates. Conclusion: it is very clear the wide range of coping strategies, in terms of effectivity not one coping strategy must be rejected by dyslexic people, in broad terms dyslexic people tends to make bad decisions in coping strategies selecting and always will depends on support of another people, dyslexic people with the support of some people could reach or be close to traditional school standards, every positive support of people creates a kind of virtuous circle in dyslexic people, so the need to get family and schoolmate aware of the value of their interactions with dyslexic people, finally is a high priority, a common limitation in this kind of studies is the size of sample, in general is very short and make it hard to generalize the findings beside of the variability of coping strategies in every individual disorder.

Keywords: Coping strategies, Dyslexia, Remedial interventions.

Resumen. Este trabajo trata sobre un análisis de las estrategias de afrontamiento en la escuela de estudiantes disléxicos, las estrategias de afrontamiento son mecanismos de respuesta que las personas utilizan para manejar el estrés y las situaciones exigentes, en primer lugar, las situaciones exigentes se detallan y categorizan para extraer perfiles que se utilizarán para mejorar el diseño e implementación de intervenciones correctivas en la escuela. Trabajamos con un conjunto representativo de 20 personas, 7 estudiantes disléxicos y 13 estudiantes regulares, para recolectar información, utilizamos un conjunto modificado de preguntas del instrumento de Singer que se utilizó en la investigación del fracaso académico, extendimos otra dimensión de datos en los casos de preguntas con respuestas que se vuelven dependientes, en este caso se hizo una nueva pregunta: "describe esta dependencia", esta información se vuelve relevante en la actividad de extracción de perfiles. Hallazgos: este estudio confirma el valor bidireccional (positivo y negativo) de las principales fuentes de situaciones exigentes para el afrontamiento, que son la familia, la escuela y los compañeros de escuela. Conclusión: es muy claro el amplio rango de estrategias de afrontamiento, en términos de efectividad ninguna estrategia de afrontamiento debe ser rechazada por las personas disléxicas, en términos generales las personas disléxicas tienden a tomar malas decisiones en la selección de estrategias de afrontamiento y siempre dependerán del apoyo de otras personas, las personas disléxicas con el apoyo de algunas personas podrían alcanzar o estar cerca de los estándares escolares tradicionales, cada apoyo positivo de las personas crea una especie de círculo virtuoso en las personas disléxicas, por lo que la necesidad de que la familia y los compañeros de escuela sean conscientes del valor de sus interacciones con las personas disléxicas, finalmente es una alta prioridad, una limitación común en este tipo de estudios es el tamaño de la muestra, en general es muy corta y dificulta la generalización de los hallazgos además de la variabilidad de las estrategias de afrontamiento en cada trastorno individual.

Palabras Clave: Estrategias de afrontamiento, dislexia, intervenciones correctivas.

1 Introduction

We present a coping strategy analysis and how dyslexic people used them at the school, in this way we propose a set of profiles and stressing cause situations in order to obtain a better understanding of this patterns, and design and implement remedial interventions or any action that support inclusion and achievement of academic goals.

The outlook of very few coping strategies categories (mostly 2 categories) make needed to find a differentiation and more options of strategy selection, the methodological procedure was to add dimensions to the variables in order to find sub-patterns.

This study was developed in the Universidad Autónoma de Aguascalientes, and the report is an analysis of contrasting the findings with regular students, dyslexic students and findings of related literature.

The present study findings are a set of patterns of responses and coping strategies in order to prevent, decrease or respond to demanding situations [1].

There are many situations that interact in coping strategy selection by dyslexic students or students with language disorder and regular students, these situations need to be clarified, that is, how these elements influence the decision process.

The sample has the next characteristics: a range of age between 12 – 21 years old, some known pre-conditions are: main causes of stress are: pressure by expectative, interaction with schoolmates, teachers and family, family economy, uncertainty [2], coping strategies patterns are developed in the childhood [3],

Actually people stress level has been increased by social changes and expectative rise, mostly in early stage of childhood [14], that is why chronic stress is considered as factor in the coping strategy decision process.

There are many limitations in the process of refining a profile of coping strategy selection: a) is hard to define and conceptualize the coping term b) the excessive amount of measurement scales and variety of perspectives c) the coping strategy categories with just only 2 categories leads to exaggerated overlap between categories that does not help to define profiles.

The extracting of profiles is useful in order to enhance the understanding of individual responses to stressing situations and as a guide in the better selection of coping strategies and adapt remedial interventions to increase academic performance and improve the welfare.

1.1 Coping facing challenges, behavior and resources patterns

First studies about coping come from the roots of psychoanalysis and how people hand the internal conflicts, since Sigmund Freud in many works [5].

Coping is a pattern that include a variety of activities to face stress and difficulties, involve actions in the sphere of emotion ad task completion, coping is a factor in personal growth and resilience as well.

Coping is a set of behaviors used to prevent, decrease or respond to face demanding or stressing situations [1].

Coping is a way to respond to stress and challenges, is very common that individuals use a wide range of coping strategies [6].

There are many resources related with coping and each one has different weight, the following are some examples: confidence, situational control, emotional control, social support (family, schoolmates, teachers), structure (management and organization like time and energy), development and monitoring of plans, physical health, wellbeing, energy, auto-driven, self-direction, assertiveness [7], even these resource has its own measure instrument Coping Resources Inventory for Stress (CRIS) [8].

1.2 Coping strategies, elements and configurations

There are many elements that influence the coping development: demanding situations and emotions –coping help to regulate negative emotions and to face stress in an effective way-; mental health –coping can reduce anxiety and depression); Personality: personal traits like resilience and self-efficacy influence the kind of strategies that an individual use, depression is included and is considered as a mood disorder with symptoms like enduring sadness and a lack of motivation in any activity [9].

There are other elements: social support: help and support of family, friends and significant persons, facilitate a better coping strategy selection to face difficulties; experiences and accumulation of experiences positives or negatives model personality and the way to face new challenges to increase wellbeing, are learning process and growth for lifetime.

These components can become articulated on many ways and could explain many behaviors related with coping, from children [12] [13], the factors that can have favorable and unfavorable effects in the tuning the process of coping strategies selection are the same: family, school and schoolmates.

The coping strategies selection has a level of variability by gender and age, besides of previous ones.

The kind of strategies selected could have positive or negative influence in self-stem and depression [14].

1.3 Coping strategies, a chronological view

For 50 years the coping strategies categorization have been evolutionary, there are three main phases or periods: in the first stage the studies have a strong base on ego and psychoanalysis [15] [16].

In the second stage the coping is regarded as a dynamic process where situational factors and cognitive factors participate in how a personality is molded [17] [18].

The third period bring a renewed perspective of the personality influence, at the same time a strong interaction with coping, an assessment and results from adaptations between elements was regarded [19].

There are just only 2 coping categories even with a long history of research on coping, recently some authors point out a third category, the nature of this recent category seems like a sub-division of no adaptive coping strategy [20] [21] [22], that's because this work tries to extend the spectrum of coping strategies from the perspective of profiles, in order to give more options for students and consequently obtain better results in academic goals.

Even there are a lack of an approach or study that evidence that a coping strategy are better than others in all contexts, there are criteria for a single perspective like time, commonly the best strategy for long term is the approach coping strategy, and in the short term the best strategy is the avoid coping strategy [23].

Another study indicate that adaptive strategies are more suitable in controllable situations and coping strategies no-adaptive are more useful in no controllable situations [24], there is not as clear superiority between strategies, always depend on a specific situation [25].

The adaptive strategies effectivity relies in more factors than the mentioned, like: strong belief that life is significant and worth living [26], the perception of greater control over sources of stress.

Main works about coping strategies categories research are: [17] [27] [28] [29] [30] [31].

Many associations between no adaptive coping strategies and language disorder include dyslexia [26] [32] [33], and perfectionism with emotion [34] [35] [36] [37].

Researchers on coping responses inventory [38] [39], indicates that is more likely that students with language disorder make an intensive use of no adaptive coping strategies [32] [33] [40].

Those persons who has social support has a better self-stem [41], and commonly those persons who has not had social support have negative results in life like school drop, delinquency, unemployment, loneliness, problems in general, a deteriorate mental health is associated with no adaptive strategies [42] [43] [44], adolescent and no adaptive strategies [45] [46] [47].

Most of patients with psychopathological symptoms at mental health institutions use no adaptive coping strategies in a ratio of 2 to 1 [48] [49] [50].

Women tends to use more the no adaptive coping strategies [51], as time passes using this kind of strategy seems that obtain a higher control in their coping process.

2 Methodology

The study was conducted with students from the Universidad Autónoma de Aguascalientes, the methodology to collect data consist of results of a set of activities that may cause a certain level of stress.

The participants did activities like exams and solving problems or complex readings depending on their ages and schooling, followed by interviews and questionnaire where the answers (the questions are listed below) become transformed to profiles using cluster analysis techniques.

Essentially this study is a hierarchical cluster analysis to differentiate groups or clusters.

The sample was 20 people (7 dyslexic people and 13 regular people) all participated by invitation, with many age groups between 12 and 21 years old, the members have been participating in similar activities of previous studies, the participants were studying major in Artificial Intelligence and software engineering.

The training period was very short because of their experience in this kind of studies, the activities consist in reading practices and no-words recognition.

After the activities the participants were told that does not approve the tasks and have to wait if they will do the activities again, in this waiting phase an interview was applied with questions about their decision process in this specific situation.

The interview procedure was based in a series of concrete questions based on the theoretical framework of cognitive-affective processes to help the people to explain their motivations and behavior from Elly Singer [52].

The set of questions were modified in order to get more appropriation to the context of college level.

What do you do in this demanding situation in coping strategy terms ?

1. What do you expect from the used strategy ?
2. Why is important to you to obtain this goals ?

3. What is your feeling in this process ?
4. What do you think make you feel this way ?
5. Did you express your feelings ?
6. Do you feel a certain level of control over the demanding situation ?
7. Did you talk somebody about this process ?

In order to reduce dichotomized answers in the interview we invite reflection rather than short answers, and ask through many perspectives and depth levels.

Interviewer fill the questionnaire with participant answers and evaluate the kind of coping strategy and the kind of stress source.

The building of profile was firstly by clustering and re-clustering of answers, the clustering method was the mountain clustering method because it is relatively simple and effective approach to approximate estimation of cluster centers on the basis of a density measure.

Basically this method was used to obtain initial cluster centers, it is considered as a quick stand-alone method for approximate clustering, is very similar to what a human does visually forming clusters of a dataset.

The process involved iterations of observing every point of overlapping areas or underlying patterns until obtain some level of internal homogeneity in clusters.

Commonly, mountain method is used with more sophisticated cluster algorithms, for this study we used mountain method only because of the small sample.

3 Results

Findings are showed in 4 histograms graphics; first 2 graphics show findings grouped by three main source of stress (family, school, schoolmates), first graphic show results from dyslexic people, second graphic show results of regular persons.

Next 2 graphics show which kind of coping strategy was selected, third graphic show results of regular persons and the fourth and last graphic show the dyslexic people results.

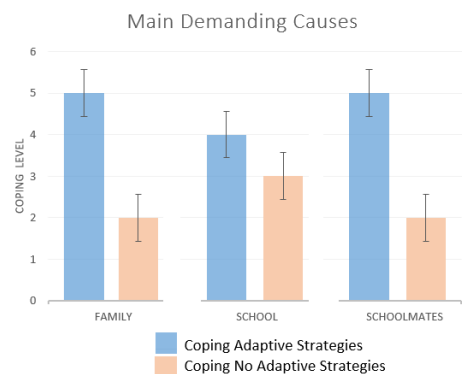


Figure 1. Dyslexic students coping strategies selection results.

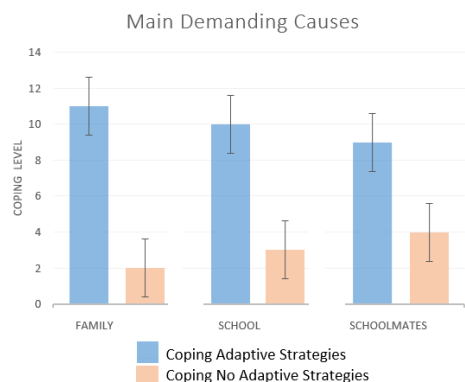


Figure 2. Dyslexic students coping strategies selection results.

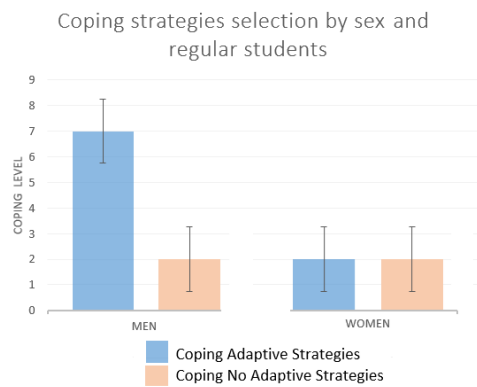


Figure 3. Regular students by sex coping strategies selection results.

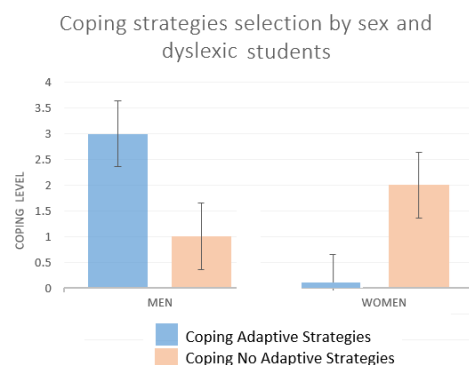


Figure 4. Regular students by sex coping strategies selection results.

Figure 1 show that dyslexic people are in doubt about choose adaptive or no adaptive coping strategies, as if they were in selection process still.

Figure 2 show that regular people insist in choosing adaptive strategies that means they keep trying, that is, show that they are more active or “all hands on deck” approach.

Figure 3 show coping strategy selection separated by sex from dyslexic people, dyslexic men and regular men results are very similar.

Figure 4 show coping strategy selection separated by sex from regular people, is notable that dyslexic women and regular women selections tends more to no adaptive coping strategies, more than men in the same category, this tendency is more in dyslexic women than in regular women.

Most of the findings of this study are consistent with the results of other studies, like other studies the size of sample is small and as consequence is hard to generalize the findings.

Profiles results

The building of profiles was through analysis of cluster and re-clustering of overlapping groups until obtain differentiated groups that become in profiles.

Profile 1: this group were very oriented to coping adaptive strategies, only 7% has doubt about adaptive or no-adaptive strategy, but these persons even that does not express their concerns or problems are in active expectation to solve their task or problems, are self-motivated, most of the people belongs to regular person group.

Profile 2 this group has a lot of doubts not just to choose a strategy from the same kind of strategies but to choose between strategy categories, these persons doubt about do nothing or stay on “active expectation” to solve their situation, from here can be derived at least 3 sub-profiles and all depend of family, school and schoolmates support, most of these profiles are dyslexic.

Profile 3 like profile 2 has a lot of doubts not just to choose a strategy from the same kind of strategies but to choose between strategy categories, this group does not do “active expectation”, they can use resources from family, school or schoolmates although they are not explicitly waiting it, this profile has high variability depending of the quality of the resources of family, school or schoolmates that is why is plausible to derive at least 3 sub profiles.

4 Conclusions and future work

As first contribution we emphasize the double role of main source of stress (family, school, schoolmates) first role is as source of stress, second role as a support network always depending of the quality of the support, from this double role we suggested 3 profiles and 6 sub-profiles, the methodology was a modified instance from Singer [52] methodology.

We suggest that the complexity of coping strategies very much depend of double role of some of its components, the variety in the time of using these strategies as well.

In this kind of studies maybe the most challenging obstacle is achieving a greater size of sample, most of the studies in this area work with small samples.

As future work we will focus on a deep analysis of nature and different kinds of social support than family, school and schoolmates can give and how it can influence the coping strategies selection.

References

- [1] George, L. K., Siegler, I. C., & Okun, M. A. (1981). Separating age, cohort, and time of measurement+: Analysis of variance or multiple regression. *Experimental Aging Research*, 7(3), 297-314.
- [2] Omizo, M. M., Omizo, S. A., & Suzuki, L. A. (1988). Children and stress: An exploratory study of stressors and symptoms. *The School Counselor*, 35(4), 267-274.
- [3] Elkind, D. (1981). Understanding the young adolescent. In *The life cycle: Readings in human development* (pp. 167-176). Columbia University Press.
- [4] Elkind, D. (1986). Stress and the middle grader. *The School Counselor*, 33(3), 196-206.
- [5] Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- [6] Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of personality and social psychology*, 56(2), 267.
- [7] Matheny, K. B., & Currence, W. L. (2010). A Brief Measure of Coping Resources. *Journal of Individual Psychology*, 66(4).
- [8] Matheny, K. B., Currence, W. L., Aycock, D. W., Pugh, J. L., & Taylor, H. F. (1987). *The coping resources inventory for stress*. Atlanta, GA: Health Prisms.
- [9] Selye, H. (1993) History on the stress concept, in Goldberger LBS (ed): *Handbook of Stress: Theoretical and Clinical Aspects*. New York, the Free, 1993.
- [10] Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science and Medicine*, 45, 1207-1221
- [11] Endler, N. S., & Parker, J. D. (1990). Multidimensional assessment of coping: a critical evaluation. *Journal of personality and social psychology*, 58(5), 844.
- [12] Prior, M., Smart, D., Sanson, A., & Oberklaid, F. (2001). Longitudinal predictors of behavioural adjustment in pre-adolescent children. *Australian & New Zealand Journal of Psychiatry*, 35(3), 297-307.
- [13] Raskind, M. H., Goldberg, R. J., Higgins, E. L., & Herman, K. L. (1999). Patterns of change and predictors of success in individuals with learning disabilities: results from a twenty year study. *Learning Disabilities Research and Practice*, 14(1), 35-49.
- [14] Alexander-Passe, N. (2006). How dyslexic teenagers cope: an investigation of self-esteem, coping and depression. *Dyslexia*, 12(4), 256-275.
- [15] Haan, N. (1963). Proposed model of ego functioning: Coping and defense mechanisms in relationship to IQ change. *Psychological Monographs: General and Applied*, 77(8),
- [16] Valliant, G. E. (1978). Coping and defending: processes of self-environment organization. *American Journal of Psychiatry*, 135(1), 139-139.
- [17] Lazarus, R., & Folkman, S. (1985). *Stress and coping*. New York, 18(31), 34-42.
- [18] Moos, R. (Ed.). (2013). *Coping with life crises: An integrated approach*. Springer.
- [19] Suls, J., David, J. P., & Harvey, J. H. (1996). Personality and coping: Three generations of research. *Journal of personality*, 64(4), 711-735.
- [20] Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine*, 4, 139-157.
- [21] Feifel, H., Strack, S., & Nagy, V. T. (1987). Degree of life-threat and differential use of coping modes. *Journal of Psychosomatic Research*, 31, 91-99.
- [22] Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist*, 41, 813-819.
- [23] Lazarus, R.S. (1983) 'The costs and benefits of denial', in Breznitz, S. (ed.) *The Denial of Stress*, New York: International Universities Press.
- [24] Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American psychologist*, 41(7),

- [25] Silver, R. and Wortman, C.B. (1980) 'Coping with undesirable life events', in Garber, J. and Seligman, M.E. (eds.) *Human Helplessness*, New York: Academic Press.
- [26] Greaves, H. A. (1998). Sense of coherence and preferred coping strategies. California State University, Long Beach.
- [27] Sirois, F. M., & Kitner, R. (2015). Less adaptive or more maladaptive? A meta-analytic investigation of procrastination and coping. *European Journal of Personality*, 29(4), 433-444.
- [28] Seiffge-Krenke, I. (1995). Causal links between stressful events, coping style, and adolescent symptomatology. *Journal of adolescence*, 23(6), 675-691.
- [29] Pearling, L., & Schooler, C. (1978). The structure of coping. *Journal of health and social behavior*, 19(1), 2-21.
- [30] Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of personality and social psychology*, 46(4), 877.
- [31] Endler, N. S., & Parker, J. D. (1994). Assessment of multidimensional coping: Task, emotion, and avoidance strategies. *Psychological assessment*, 6(1), 50.
- [32] Cheshire, G., & Campbell, M. (1997). Adolescent coping: Differences in the styles and strategies used by learning disabled compared to non-learning disabled adolescents. *Australian Journal of Guidance and Counselling*, 5(1), 65-73.
- [33] Shulman, S., Carlton-Ford, S., & Levian, R. (1994). Coping styles of learning disabled adolescents and their parents. *Journal of Youth and Adolescence*, 24(3), 281-294.
- [34] Dry, S. M., Kane, R. T., & Rooney, R. M. (2015). An investigation into the role of coping in preventing depression associated with perfectionism in preadolescent children. *Frontiers in Public Health*, 3, 190.
- [35] Dunkley, D. M., & Blankstein, K. R. (2000). Self-critical perfectionism, coping, hassles, and current distress: A structural equation modeling approach. *Cognitive therapy and research*, 24, 713-730.
- [36] Eddington, K. M. (2014). Perfectionism, goal adjustment, and self-regulation: A short-term follow-up study of distress and coping. *Self and Identity*, 13(2), 197-213.
- [37] Flett, G. L., Galfi-Pechenkov, I., Molnar, D. S., Hewitt, P. L., & Goldstein, A. L. (2012). Perfectionism, mattering, and depression: A mediational analysis. *Personality and Individual Differences*, 52(7), 828-832.
- [38] Geisthardt, C., & Munsch, J. (1996). Coping with school stress: A comparison of adolescents with and without learning disabilities. *Journal of learning disabilities*, 29(3), 287-296.
- [39] Ebata, A. T., & Moos, R. H. (1994). Personal, situational, and contextual correlates of coping in adolescence. *Journal of research on Adolescence*, 4(1), 99-125.
- [40] Greaves, D. (1998). Learning disabled children coping with challenging academic tasks. In D. Greaves & P. Jeffery (Eds.), *Strategies for intervention with special needs students* (pp. 63-74). Melbourne: Australian Resource Educators Association.
- [41] Cooley C. 1922, *Human Nature and the Social Order*, e-book
- [42] Margalit, M. (2003). Resilience model among individuals with learning disabilities: Proximal and distal influences. *Learning Disabilities Research & Practice*, 18(2), 82-86.
- [43] Prior, M. (1996). *Understanding specific learning difficulties*. U.K.: Psychology Press.
- [44] Raskind, M. H., Goldberg, R. J., Higgins, E. L., & Herman, K. L. (1999). Patterns of change and predictors of success in individuals with learning disabilities: results from a twenty year study. *Learning Disabilities Research and Practice*, 14(1), 35-49.
- [45] Hoffman, M. A., Levy-Shiff, R., Sohlberg, S. C., & Zarizki, J. (1992). The impact of stress and coping: Developmental changes in the transition to adolescence. *Journal of Youth and Adolescence*, 21, 451-469.
- [46] Kurdek, L. A. (1987). Sex role self-schema and psychological adjustment in coupled homosexual and heterosexual men and women. *Sex Roles*, 17, 549-562.
- [47] Tolor, A., & Fehon, D. (1987). Coping with stress: A study of male adolescents' coping strategies as related to adjustment. *Journal of Adolescent Research*, 2(1), 33-42.
- [48] Asarnow, R. F., Tanguay, P. E., Bott, L., & Freeman, B. J. (1987). Patterns of intellectual functioning in non-retarded autistic and schizophrenic children. *Journal of Child Psychology and Psychiatry*, 28(2), 273-280.
- [49] Compas, B. E., Orosan, P. G., & Grant, K. E. (1993). Adolescent stress and coping: Implications for psychopathology during adolescence. *Journal of adolescence*, 16(3), 331-349.
- [50] Seiffge-Krenke, Inge. (2007) "Bewältigung von familiären und schulischen Problemen." *Stress und Stressbewältigung im Kindes-und Jugendalter* (2007): 161-174
- [51] Frydenberg, E., & Lewis, R. (1993). *Adolescent Coping Scale*. Melbourne: Australian Council for Educational Research.
- [52] Singer, E. (2008). Coping with academic failure, a study of Dutch children with dyslexia. *Dyslexia*, 14(4), 314-333.