

## ASSESSMENT AND TREATMENT OF DAILY STRESS IN CHILDHOOD

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*Daily stress in childhood refers to the worries and setbacks that occur in the everyday lives of school-age children. As the problem is associated with difficulties and dysfunctions in social and emotional development there is a need for diagnostic instruments that can be used in school and family contexts. The Children's Daily Stress Inventory (IECI\* in the original Spanish) is a self-report measure that was developed to this end. It has been validated and normed in a sample of schoolchildren aged 6-12 years, and shows adequate psychometric properties. This paper presents various findings that highlight the importance not only of studying and assessing children's daily stress, but also of preventing and treating it, principally through interventions that promote the acquisition of effective coping strategies.*

**Key words:** Daily stress, Childhood, Assessment, Coping.

*El estrés cotidiano infantil se refiere a contratiempos y preocupaciones que suceden en el entorno diario de los escolares. Se trata de un problema que se asocia a dificultades y disfunciones en el desarrollo socioemocional, por lo que es importante disponer de instrumentos para su diagnóstico en contextos escolares y familiares. Con esta finalidad se ha desarrollado una medida de autoinforme denominada Inventario de Estrés Cotidiano Infantil (IECI)\*, validada y baremada en una muestra de escolares entre 6 y 12 años, hallándose unas propiedades psicométricas adecuadas. El presente artículo expone diversos resultados que ponen de manifiesto la importancia del estudio y evaluación del estrés cotidiano en población infantil, así como de su prevención y tratamiento, principalmente a través de intervenciones que promuevan la adquisición de estrategias de afrontamiento eficaces.*

**Palabras clave:** Estrés cotidiano, Infancia, Evaluación, Afrontamiento

### CONCEPT OF DAILY STRESS IN CHILDHOOD

Stress in children has been a focus of study in Psychology for the last few years, recognizing its importance in the prediction of psychopathology in childhood and adolescence. However, research providing descriptive data of the incidence of daily stress in school-age children is still needed, as well as assessment and coping techniques for this childhood problem. Stress is defined according to three widely extended conceptions in the literature: stress as a stimulus, stress as a response, and stress as the event-reaction relationship.

Stress as a stimulus makes reference to the exposure to circumstances or events that are external to the subject, denominated stressors, capable of altering the physiological and psychological balance of the organism (Holmes and Rahe, 1967). Stress as a response refers to

the physiological (Selye, 1978), emotional or behavioral manifestations of the organism when faced with stressors (Escobar, Blanca, Fernández-Baena and Trianes, 2011; Fimian, Fastenau, Tashner and Cross, 1989). Finally, stress as the event-reaction relationship is considered as "a particular relationship between the individual and the environment that is assessed by the former as threatening or exceeding his/her resources and endangering his/her wellbeing" (Lazarus and Folkman, 1986, p. 43).

Focusing on the conception of stress as a stimulus, stressors are classified into vital, chronic and everyday events. Vital events have been defined as exceptional, traumatic unpredictable and uncontrollable situations that imply very relevant changes in the person's life, such as the loss of a loved one, and that demand certain adaptive readjustments on the part of the subject, (Johnson, 1986). Chronic stressors are characterized by a toughening of physical and social aspects in the neighboring environment, which have as a consequence a series of privations and disadvantages that favor continuous threats and changes for the subject, for example, suffering from a chronic illness or high levels of acoustic

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(\*) The IECI won the XVI TEA Ediciones 2010 Prize for its psychometric properties, originality and usefulness



contamination in the home (Compas, 1987). Finally, everyday stress is defined as the frustrating and irritating demands that daily interaction with the environment create (Kanner, Coyne, Schaefer and Lazarus, 1981). It is about high frequency, low-intensity, and high-predictability incidences, problems, worries, and setbacks that can alter the emotional and physical wellbeing of the individual (Seiffge-Krenke, 2007). The continuous experience of these everyday stressors can affect the wellbeing and health of the individual from childhood (Trianes, 2002; Trianes and Escobar, 2009).

Research has shown that the incidence of everyday stress in children can have important emotional consequences. In this regard, it has been found that everyday stress can have a more negative impact on the emotional development of the child or adolescent than the stress experienced due to vital events or chronic stressors (Seiffge-Krenke, 2000; Wagner, Compas and Howell, 1988).

In the school-age population, stressors of a daily nature are grouped into three main domains: health, school, and family (Trianes, 2002). In the health domain, there are vital events such as situations of physical illness, medical procedures and body-image preoccupation. With respect to the school domain, we find stressors such as interaction with the teachers, difficulties in school-task performance, exam performance, academic pressures, low school grades, making mistakes in front of classmates and excessive extracurricular activities. Likewise, stressors related to difficulties in the relation with peers are included, such as the lack of acceptance by peers, fights and situations of ridiculization or mocking. With respect to the family domain, the specialized literature points out stressors such as economic difficulties, lack of parental supervision or being alone at home and continuous fights among siblings.

The assessment of the cited stressors is necessary for the development of detection actions, prevention and intervention of daily stress in school-age children. For this reason, a specific instrument for the assessment of this construct in the Spanish language, denominated Children's Daily Stress Inventory (*Inventario de Estrés Cotidiano Infantil*, IECI; Trianes, Blanca, Fernández-Baena, Escobar and Maldonado, 2011) has been developed.

#### **DAILY STRESS ASSESSMENT: CHILDREN'S DAILY STRESS INVENTORY (IECI)**

The IECI focuses on the assessment of stressor stimuli and

the psychophysiological, emotional, cognitive or behavioral responses that are elicited in childhood when suffering from the action of stressors. It consists of a list of negative events, in which children respond to whether events have happened to them through self-report measures. The selection of this self-report format for the assessment of daily stress in school-age populations, as opposed to other methods of assessment such as the interview, has the advantage of being easy to administer, correct and interpret, with the possibility of being complemented by other assessment instruments. Likewise, it can be administered collectively, which permits psychoeducational assessment and intervention in large samples (Trianes et al., 2011).

The IECI presents 22 dichotomous items (Yes/No) describing the occurrence of diverse events, problems, demands and setbacks that emerge from daily interaction with the environment and are susceptible to an emotional reaction that can negatively affect the development of schoolchildren. In the writing of the items, it was ensured that the language was comprehensible to the school-age population in Spanish speaking countries, being reviewed by professionals and academics from Argentina, Cuba and the Dominican Republic.

The IECI addresses three areas pertaining to childhood stress which constitute the following factors: a) *Health-related and psychosomatic problems*, related to situations of illness, visits to the doctor, minor illnesses and body-image concern; b) *Stress in the school domain*, with content related to excessive homework, problems of interaction with teachers, low school grades and difficulties in relationships with classmates; and c) *Stress in the family domain*, with situations such as economic difficulties, lack of contact and parental supervision, perceived loneliness, fights among siblings, and parental demands. Said factors have been extracted through a confirmatory factor analysis (Trianes et al., 2011). High scores on the IECI are indicative of high levels of stress. In the IECI manual, the scales cutoff points for the test as a function of gender and school grade can be consulted.

Regarding the psychometric properties of the test, the factorial structure, item properties, test-retest reliability and internal consistency have been analyzed, as well as external validity evidence based on its relationship with other psychological variables such as anxiety, rage, and depression among others, in a sample of 1,957 schoolchildren from the first to the sixth grade of



primary school ( $M = 9.85$ ;  $DT = 1.70$ ). The results showed adequate psychometric properties.

The confirmatory factor analysis has adjusted to a model of three first order factors with the factors proposed and previously mentioned, *Health-related and psychosomatic problems*, *Stress in the school domain*, *Stress in the family domain*, and a second-order factor indicative of *Total stress*. On its part, the item analysis conducted, in which the discrimination indices were calculated for each of the items in relation to its factor and the test total score, showed an adequate discrimination between schoolchildren with high and low scores on the factors and total score.

Regarding test-retest reliability, correlations between the first and the second administration of the test, in a 3-month interval, have reached 0.61, 0.66 and 0.67 for the IECI factors, and 0.80 for the stress total score. The internal consistency of the test in the test sample ranges from 0.62 for health-related and psychosomatic problems to 0.81 for the stress total score.

Validity evidence has been obtained through the relationship between the IECI factors and other psychological tests. For the assessment of socioemotional maladjustment, the *Behavioral Assessment System for Children* (BASC; Reynolds and Kamphaus, 1992; Spanish adaptation by González, Fernández, Pérez and Santamaría, 2004) was administered. The correlations of the four IECI scores (one for each childhood stress domain plus the total score) with the test factors were high and significant. Positive relationships were obtained with the variables indicative of socioemotional maladjustment, such as anxiety and depression, and negative relationships with those indicative of personal adjustment, such as adequate interpersonal relationships, self-esteem and self confidence (Trianes et al., 2011).

As additional validity evidence, the relationship between the IECI with physiological stress markers through the cortisol/DHEA ratio was also analyzed. A positive and statistically significant relationship was found with higher levels of physiological stress corresponding to higher IECI scores (Trianes et al., 2011).

With respect to the relationship between the IECI and variables in the school context, negative and statistically significant relationships have been found with academic performance and peer acceptance, assessed through a sociometric procedure, specifically, an assessment scale. Students with higher IECI scores showed worse academic performance in school tasks and lower acceptance by their classmates (Trianes et al., 2011).

Finally, it is worth highlighting the positive relationship found between the IECI and the stress provoked by vital and chronic events. That is, high scores on total daily stress are associated with higher levels of stress in the family context and the occurrence of events that interfere in the life of schoolchildren, for example, parental separation, conflict, unemployment or the death of a family member (Trianes et al., 2011).

All in all, research has shown that IECI presents adequate psychometric properties for the assessment of children's daily stress. It proves to be a precise instrument for the assessment of stress levels in normative sample. In addition, it is aimed at a population between 6 and 12 years of age, as opposed to other measures available in the market directed at adolescent or adult populations. Another advantage of the IECI is that it evaluates daily stressors in the Spanish language, and not vital events as in other measures. Thus, the Children's Daily Stress Inventory has been developed as a specific instrument for children in the ages of primary education, which in addition to offering a total daily stress score, reveals partial scores in health-related and psychosomatic problems, academic and family domains, with unquestionable usefulness for professionals in the areas of health and education.

## RESULTS OF OUR RESEARCH ON DAILY CHILDHOOD STRESS

In the last few years, diverse studies have been carried out to advance in the knowledge regarding daily stress in childhood and its relation to other variables of emotional maladjustment, social acceptance and cognitive performance. Moreover, the relationship between daily stress and physiological, emotional and behavioral manifestations in adolescent populations has been studied.

With respect to emotional maladjustment, studies conducted in school-age populations have found an association between high levels of daily stress and symptomatology internalized as anxiety, low self-esteem, low self-concept, depression, external locus of control and feelings of incompetence (Escobar, Trianes and Fernández-Baena, 2008; Trianes et al., 2009).

In reference to the relationship between daily stress and social adaptation in schoolchildren, relationships between high levels of daily stress and low sociometric acceptance have been found (Escobar, Trianes, Fernández-Baena and Miranda, 2010). Similarly, the role played by daily



stress on the relationship between sociometric acceptance and emotional maladjustment problems has been examined (Escobar, 2008; Escobar, Fernández-Baena, Miranda, Trianes and Cowie, 2011). In these research studies, daily stress has been proven to be a relevant variable in the prediction of emotional and social psychopathology assessed by means of the BASC self-report (emotional symptomatology, school and clinical maladjustment and personal adjustment) even after controlling the influence of low sociometric acceptance. This means that the students that experience low sociometric acceptance and high daily stress scores have a greater risk of showing socioemotional maladjustment compared to the students who, despite having low sociometric acceptance, do not suffer from stress.

The relationship between daily stress and cognitive performance has also received attention in our research (Maldonado et al., 2008). The results have shown that children with high daily stress levels in diverse IECE factors present lower scores on several tests in a cognitive performance battery, specifically, worse capacity for sustained attention and greater time needed for retrieving information from work or episodic memory when compared to students who obtain low daily stress scores. These results, along with the negative relationship found between daily stress and academic performance (Fernández-Baena, 2007; Trianes et al., 2009) demonstrate that the perception of daily stress in childhood disrupts the academic performance of students.

Regarding the relationship between daily stress and physiological manifestations, diverse studies conducted by our research team show correlates with morning cortisol levels (Fernández-Baena, 2007; Maldonado et al., 2008).

It has been found that daily stress is associated with cortisol levels, specifically with decreased levels, and these are associated with socioemotional and academic problems in childhood. In an adolescent sample, with an adapted version of the IECE, the relationship between daily stress and physiological, emotional and behavioral manifestations has been studied, finding a positive relationship with all of these (Escobar et al., 2011).

### TREATMENT OF DAILY CHILDHOOD STRESS

The prevention and treatment of daily childhood stress is focused on the promotion of efficient coping strategies. Coping strategies refer to the voluntary efforts made with the aim of managing stressful situations. These strategies

can be classified into three basic coping styles: a) focused on the problem, with strategies such as concentrating on solving the problem, looking for relaxing diversions, physical distraction, making an effort to be successful, and focusing on the positive; b) focused on others, consisting in strategies such as seeking social support, seeking professional help, seeking spiritual support, seeking to belong, social action and investing in close friends; c) unproductive, referring to strategies such as worrying, wishful thinking, lack of coping or not coping, ignoring the problem, keeping it to oneself, self-blame, and tension reduction (Frydenberg and Lewis, 1996; Frydenberg and Rowley, 1998).

In the field of psychoeducational intervention, there are specific programs directed at teaching coping strategies, for example, The Best of Coping (BOC) (Frydenberg and Brandon, 2002; Frydenberg et al., 2004). The BOC program is structured in 10 one-hour sessions in which the students are trained to come up with effective solutions when faced with stressful situations. Among the skills to work on, optimistic thinking, effective communication, adaptive problem solution, decision-making, goal setting and time organization are included (Frydenberg et al., 2004). The results of this program show the convenience of coping skills training in children and adolescents given that these skills are susceptible to improvement through education.

Moreover, there are other programs that, although they were not specifically designed to teach coping, can be used with this aim. For example, interpersonal problems with peers are considered to be daily stressors that require a coping response on the part of the students. Thus, programs that are centered on solving interpersonal problems (SIP) can be adequate for the promotion of new strategies that allow them to cope with social stressors such as rejection by peers, being mocked or insulted, physical aggression and other negative situations (Trianes, 1996; Trianes and Fernández-Figares, 2002). Specifically, teaching SPI strategies is aimed at generating different responses to a problem that has emerged, such as negotiating, being assertive and asking for help. Problem solving is also a coping model applicable to health problems or problems in the family context.

In conclusion, we want to emphasize that it is possible in childhood to teach a healthy coping style to deal with daily stressors, reinforcing attempts at solving problems and helping children learn how to cope with them on their own or seeking social support, avoiding emotional



outbursts that may imply unproductive forms of facing stress. Therefore, the school context, in addition to the family context, is an ideal framework for transmitting and teaching productive coping strategies that promote personal development and wellbeing.

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#### REFERENCES

- Compas, B. E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review*, 7, 275-302.
- Escobar, M. (2008). Aceptación sociométrica e inadaptación socioemocional en la infancia: Modelos predictivos (Tesis doctoral, Universidad de Málaga, España) [Sociometric acceptance and socioemotional maladjustment in childhood: Predictive models (doctoral thesis, University of Málaga, Spain)]. Downloaded from <http://riuma.uma.es/xmlui/handle/10630/2673>.
- Escobar, M., Blanca, M. J., Fernández-Baena, F. J. and Trianes, M. V. (2011). Adaptación española de la escala de manifestaciones de estrés del Student Stress Inventory (SSI-SM) [Spanish adaptation of the Stress Manifestation Scale of the Student Stress Inventory (SSI-SM)]. *Psicothema*, 23, 475-485.
- Escobar, M., Fernández-Baena, F. J., Miranda, J., Trianes, M. V. and Cowie, H. (2011). Low peer acceptance and emotional/behavioural maladjustment in schoolchildren: Effects of daily stress, coping and sex. *Anales de Psicología*, 27, 412-417.
- Escobar, M., Trianes, M. V. and Fernández-Baena, F. J. (2008). Daily stress, sociometric status and emotional adjustment in primary school children. In P. Roussi, E. Vassilaki and K. Kaniasty (Eds.), *Stress and psychosocial resources* (pp. 91-101). Berlin: Logos Verlag Berlin.
- Escobar, M., Trianes, M. V., Fernández-Baena, F. J. and Miranda, J. (2010). Relaciones entre aceptación sociométrica escolar e inadaptación socioemocional, estrés cotidiano y afrontamiento [Relationship between school sociometric acceptance and socioemotional maladjustment, daily stress and coping]. *Revista Latinoamericana de Psicología*, 42, 469-479.
- Fernández-Baena, F. J. (2007). *Estrés, riesgo familiar e inadaptación socioemocional y escolar en la infancia* (Tesis doctoral, Universidad de Málaga, España) [Stress, family risk and socioemotional and school maladjustment in childhood (doctoral thesis, University of Málaga, Spain)]. Downloaded from <http://riuma.uma.es/xmlui/handle/10630/2674>.
- Fimian, M. J., Fastenau, P. A., Tashner, J. H. and Cross, A. H. (1989). The measure of classroom stress and burnout among gifted and talented students. *Psychology in the Schools*, 26, 139-153.
- Frydenberg, E. and Brandon, C. M. (2002). *The best of coping*. Melbourne: Oz Child.
- Frydenberg, E. and Lewis, R. (1996). A replication study of the structure of the Adolescent Coping Scale: Multiple forms and applications of a self-report inventory in a counselling and research context. *European Journal of Psychological Assessment*, 12, 224-235.
- Frydenberg, E., Lewis, R., Bugalski, K., Cotta, A., McCarthy, C., Luscombe-Smith, N., et al. (2004). Prevention is better than cure: Coping skills training for adolescents at school. *Educational Psychology in Practice*, 20, 117-134.
- Frydenberg, E. and Rowley, G. (1998). Coping with social issues: What Australian university students do. *Issues in Educational Research*, 8, 33-48.
- González, J., Fernández, S., Pérez, E. and Santamaría, P. (2004). *Adaptación española del Sistema de Evaluación de la Conducta en Niños y Adolescentes: BASC [Spanish adaptation of the Behavior Assessment System in Children and Adolescents]*. Madrid: TEA Ediciones.
- Holmes, T. H. and Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research*, 11, 213-218.
- Johnson, J. H. (1986). *Life events as stressors in childhood and adolescence*. Beverly Hills, CA: Sage.
- Kanner, A. D., Coyne, J. C., Schaefer, C. and Lazarus, R. S. (1981). Comparison of two models of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine*, 4, 1-39.
- Lazarus, R. S. and Folkman, S. (1986). *Estrés y procesos cognitivos [Stress and cognitive processes]*. Barcelona: Martínez Roca (Original paper published in 1984).
- Maldonado, E. F., Fernández-Baena, F. J., Trianes, M. V., Wesnes, K. A., Petrini, O., Zangara, A., et al. (2008). Cognitive performance and morning levels of salivary



- cortisol and alfa-amylase in children reporting high vs. low daily stress perception. *The Spanish Journal of Psychology*, 11, 3-15.
- Reynolds, C. R. y Kamphaus, R. W. (1992). *Behavior Assessment System for Children (BASC)*. Circle Pines, MN: American Guidance Services.
- Seiffge-Krenke, I. (2000). Causal links between stressful events, coping style, and adolescent symptomatology. *Journal of Adolescence*, 23, 675-691.
- Seiffge-Krenke, I. (2007, Febrero). *Stress, coping, and depression*. Ponencia presentada en el Postgrado de Investigación en Procesos Básicos e Intervención en Psicología de la Salud, bienio 2006-2008, Universidad de Málaga, España [Paper presented at the postgraduate course Research in Basic Processes and Intervention in Health Psychology, biennial 2006-2008, University of Málaga, Spain].
- Selye, H. (1978). *The stress of life*. New York, NY: McGraw Hill (original paper published in 1956).
- Trianes, M. V. (1996). *Educación y competencia social: Un programa en el aula [Education and social competence: A program for the classroom]*. Málaga: Aljibe.
- Trianes, M. V. (2002). *Estrés en la infancia [Childhood stress]*. Madrid: Narcea.
- Trianes, M. V., Blanca, M. J., Fernández-Baena, F. J., Escobar, M. and Maldonado, E. F. (2011). *IECI. Inventario de Estrés Cotidiano Infantil [Children's Daily Stress Inventory]*. Madrid: TEA Ediciones.
- Trianes, M. V., Blanca, M. J., Fernández-Baena, F. J., Escobar, M., Maldonado, E. F. and Muñoz, A. M. (2009). Evaluación del estrés infantil: Inventario Infantil de Estresores Cotidianos (IIEC) [Assessment of stress in childhood: Children's Daily Stress Inventory]. *Psicothema*, 21, 598-603.
- Trianes, M. V. and Escobar, M. (2009). Estrés cotidiano en la infancia media [Daily stress in middle childhood]. In F. Etxebarria (Ed.), *Educación y menores en riesgo* (pp. 283-297) [Education and minors at risk]. Barcelona: Sello Editorial.
- Trianes, M. V. and Fernández-Figueras, C. (2001). *Aprender a ser persona y a convivir: Un programa para secundaria [Learning how to be a person and live together: a program for secondary education]*. Bilbao: Desclée de Brouwer.
- Wagner, B. M., Compas, B. E. and Howell, D. C. (1988). Daily and major life events: A test of an integrative model of psychosocial stress. *American Journal of Community Psychology*, 16, 189-205.

