The relationship between learned resourcefulness and coping with crying in pediatric dentistry: a pilot study

Z. Zlotogorski, PhD D. Zadik, DDS D. Evron, DDS

Introduction

Learned resourcefulness (LR) is a set of well-learned behaviors and skills by which one controls behavior.[1,2] It is an acquired repertoire of behavioral and cognitive skills a person uses to regulate internal events that might otherwise interfere with the execution of "instrumental" behavior. In dentistry one common intense and stressful situation often interfering with treatment is the crying child. Attitudes affect the dentist's response to the crying child; the dentist's greater sense of personal responsibility in turn leads to more persistent behavior. Training dentists to assume that their performance is determined largely by effort could make them more resistant to the effects of decreased control. Thus dentists should acquire skills that allow them to perceive "uncontrollable" situations in alternate ways.

Both Elsbach[3] and Martinez[4] agree that the crying child creates a stressful situation that may interfere with the normal course of treatment. Elsbach defined four types of crying: fear-motivated crying accompanied by hysterical behavior; pain-motivated crying; compensatory-motivated crying; and steady state siren-like crying. Each of these stressful situations represents the child's effort to control the interaction and offers a serious challenge to the treating dentist.

Effective coping entails curtailing the crying, facilitating cooperative behavior, and resuming treatment. In a series of studies, Rosenbaum et al. reported that high LR subjects tolerated better laboratory-induced pain, coped better with seasickness, coped more effectively with epileptic seizures, and coped better during childbirth without anesthesia.[2,5,6] Other studies have reported a fit between LR and informational coping style.[7,8] In other words, enhanced coping in stressful situations was found for two-way interactions between informational-seeking style and available behavioral resources. A review of the literature in the area of LR suggests that prior experience and training with success and failure might immunize a subject against learned helplessness.

The purpose of this study was to investigate the relationship between LR and the coping behavior of dental students with the crying child.

Methods

Thirty-nine senior dental students from the Hebrew University — Hadassah Faculty of Dental Medicine, who had a modicum of clinical dental experience with toddlers and young children, served as subjects. Participation was voluntary and confidential. Subjects ranged in age from 22 to 30 years and approximately two-thirds were males.

Measuring instruments

1. The Self Control Schedule (SCS) developed by Rosenbaum[9] is a self-report instrument that assesses an individual's tendencies to use self-control methods to solve behavioral problems. The SCS consists of 36 items that tap four different areas of self-control behavior. Test-retest reliability over a 4-week period has been reported as high (r = 0.86).[9] Alpha coefficients ranged between 0.78 and 0.86. Construct validity has

Table 1. The Coping with Crying (CWC) Questionnaire

1.	When a child cries during treatment I feel rejection.
2.	When I expect a crying child I tell myself not to be stressed.
3.	When a child cries during treatment and I am convinced that he has no pain at all, I feel angry.
4.	In spite of knowing that a crying child in treatment has no pain, I feel pity and empathy.
5.	When a child cries during treatment I find it hard to concentrate and perform the treatment unsatisfactorily.
6.	When a child cries we should calm him down before starting the treatment.
7.	When a child cries during treatment and I am positive that he has no pain, I can perform satisfactorily.
8.	A sensitive person will always feel uneasy when treating a crying child.
9.	The treatment of a crying child is a learnable skill.
10.	Even after years of experience in the treatment of crying children I will never get used to it.

been reported[5] with Rotter's I-E Locus of Control Scale and discriminant validity has been reported[2] with the Crowne-Marlow Social Desirability Scale.

2. Copying with Crying Questionnaire (CWC) was developed by the authors for this study. Test-retest reliability was satisfactory (r = 0.80) and issues of validity are currently being investigated. It consists of a 10-item self-report measure in which subjects are asked to rate statements on a range of strongly agree (+3) to strongly disagree (-3). Each statement represents an emotional, operational or cognitive attitude or behavior toward the crying-child situation (Table 1).

Table 2. Means and SD of high- and low-LR groups

	Mean CWC	*SD*
High LR	38.95	14.94
Low LR	9.1	12.48

Table 3. Means and SD for CWC of LR levels

	Mean CWC	*SD*
Very high LR	-3.3	4.7
High LR	5.5	6.8
Low LR	5.6	5.1
Very low LR	5.5	6.6

Procedure

Subjects completed the SCS and a demographic questionnaire then viewed a videotape, originally developed by GZ Wright at the University of Western Ontario to teach Hand Over Mouth exercise, that showed management of a crying child. All subjects were then given the CWC.

Results

Means and standard deviations were computed for the SCS ($\chi^2 = 23.64$, SD = 20.38) and the CWC ($\chi^2 = 3.26$, SD = 6.9). The mean SCS score was nearly equivalent to that reported in the literature.[10] The median split of our sample produced two groups with regard to learned resourcefulness. The high LR group had a mean SCS score of 30.95 and the low LR group had a mean SCS score of 9.1 (Table 2). A *t*-test was computed for their respective mean coping with crying scores and revealed a significant ($P < 0.04$) difference. That is, the high LR group showed significantly better coping with crying skills. Quartiles for SCS scores were then calculated and the corresponding mean CWC scores are presented in Table 3. Analysis of variance revealed a significant ($P < 0.003$) difference between the lowest quartiles and the upper three quartiles.

Discussion

In this study we explored the notion that individuals who were high in LR would deal more effectively with the crying child than those with low LR. That is, high LR subjects would be better able to regulate the resulting emotions and cognitions of crying in the dental environment.

This common stressful situation in pediatric dentistry poses a challenge. The results indicate that high LR individuals perceived themselves as coping more effectively with the crying child than those who were low in LR. In other words, high LR subjects seemed to better regulate their affective and cognitive reactions to the crying child than their low LR counterparts. Further data analysis revealed that only the lowest quartile of the self-control measure had significant difficulty coping with crying behavior.

According to Meichenbaum[1] LR is an acquired repertoire of behavioral and cognitive skills. Our preliminary findings suggest that professionals in pediatric dentistry, especially those low in LR, may benefit from cognitive skill training designed to enhance LR. In addition, the further development and validation of the measuring instruments used in this study might be used to assess certain characteristics of students of dentistry.

Clearly, one should be cautious about generalizing thse pilot findings. Replication of the study with different standardized measures and in vivo observational measures should be completed. Continued research in this area will shed light on the reliability and validity of the measuring instruments and their utility in pediatric dentistry. The interesting link between an acquired personality repertoire and coping behavior in a common pediatric dental situation needs further study.

Dr. Zlotogorski, department of psychology; Dr. Zadik, department of community dentistry; and Dr. Evron, department of community dentistry, are from Hebrew University, Hadassah Faculty of Dental Medicine, Jerusalem, Israel.

1. Meichenbaum D: Cognitive Behavior Modification: An Integrative Approach. New York: Plenum, 1977.
2. Rosenbaum M: Learned Resourcefulness: On Coping Skills, Self Control and Adaptive Behavior. New York: Springer Publishing Co, 1990.
3. Elsbach HG: Crying as a diagnostic tool. ASDC J Dent Child 30:13–16, 1963.
4. Martinez NP, Sax S, Elsbach HG: Managing the crying child patient. ASDC J Dent Child 9:329–32, 1980.
5. Rosenbaum M, Palmon N: Helplessness and resourcefulness in coping with epilepsy. J Consult Clin Psych 52:244–53, 1984.
6. Rosenbaum M, Rolnick A. Self control behavior and coping with sea sickness. Cognitive Ther Res 7:93–98, 1983.
7. Piamenta R: The effect of learned resourcefulness and style of coping (blunter vs. monitor) on adjustment to surgery under local or general anesthesia. Masters thesis, Tel Aviv University, Israel, 1987.
8. Zlotogorski Z, Tadmor O, Duniec E: The effect of coping style, learned resourcefulness, and amount of feedback received on the anxiety levels of pregnant women undergoing an ultrasound examination. In press.
9. Rosenbaum M: A schedule for assessing self control behaviors: preliminary finds. Behavior Therapy 2:109–121, 1980.