

## Reliability and validity of a measure of confidence in child management

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### Abstract

*The purpose of this study was to establish the reliability and validity of a 20-item, 10-point behaviorally-anchored Confidence in Child Management Scale. The instrument was administered to a random sample of subjects with various levels of experience: 40 students from each of the second, third, and fourth year classes; 20 recent graduates; and 20 pedodontists. Half of the subjects from each group were requested to fill out an additional questionnaire one week later. Results show significant differences between groups and acceptable levels of internal consistency and test-retest reliability.*

### Introduction

It is our belief that successful pedodontic appointments are primarily a function of the behavior of the dentist. Such an approach focuses on the behavior, knowledge, and orientation of the dentist, not the child. Problematic child behavior in the operatory is largely iatrogenic. And the majority of problems can be either prevented or ameliorated.

Expectations play a significant role in patient management. Until the late 19th century, virtually all treatment was treatment by placebo,<sup>1</sup> that is, the personal and not the pharmacological properties of the treatment were effective. In modern medicine,

though vastly more sophisticated, it has been observed that new drugs always seem effective early in the dental career, and lose therapeutic value with the dentist through the passage of time.<sup>2</sup> This phenomenon, like the operation of placebo effects in general, can be understood in terms of the health professional's expectations for the efficacy of the professional's own treatment.

The placebo is not a magic pill; it is a process that affects patient functioning. First, the health professional develops confidence in self and the specific treatment being used; then this confidence is communicated to the patient who triggers behavioral and physiological changes within him or herself.

There appear to be many laetrile-like child management techniques that are used daily. Although dentist behaviors critical to effective child management have not received adequate attention in the pedodontic literature, there have been indications that dentist confidence may be an important factor in the success of a startling variety of management approaches. Lovett<sup>3</sup> and Chambers<sup>4</sup> both stress the role of the practitioner's confidence in the establishment and maintenance of successful dentist-patient interactions, regardless of the management approach employed. If an approach appears to succeed, that is, if it makes the dentist feel better, the approach will be adopted. Similar to the use of the placebo, when the dentist expects the approach to work, this is communicated to the child who alters his or her behavior.

The purpose of this study was to explore the development of a measure of dentist confidence. Specifically, the study attempted to establish the reliability and validity of the Confidence in Child Management Scale.

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**Table 1. Confidence in child management scale**

1	3	5	7	10
<p>I feel my skills are disturbingly inadequate. I do not think I am able to control this behavior more than 1 time in 10.</p>		<p>I feel my skills are adequate. I think I am able to control this behavior about every other time (5 out of 10) it occurs.</p>		<p>I feel my skills are completely adequate. I am able to control this behavior whenever it occurs (10 out of 10).</p>
<p>1. Four-year-old Mark walks into the operatory with you but rejects your invitation to climb into the chair by silently shaking his head from side to side.</p> <p>Under these circumstances I would feel: 1 2 3 4 5 6 7 8 9 10</p>				
<p>2. After repeated urging during prophylaxis, Flora, a four year old refuses to open her mouth after you have begun to apply pumice.</p> <p>I would feel: 1 2 3 4 5 6 7 8 9 10</p>				
<p>3. Seven-year-old Phyllis grabs your hand repeatedly in an attempt to force you to stop polishing an amalgam.</p> <p>In managing this patient I would feel: 1 2 3 4 5 6 7 8 9 10</p>				
<p>4. Eight-year-old Pete is very withdrawn and timid. He does not respond to you at all during your examination with mirror and explorer. He just sits rigidly with his eyes closed and his mouth open.</p> <p>I would feel: 1 2 3 4 5 6 7 8 9 10</p>				

## Materials and Methods

The instrument consisted of a 20-item, 10-point behaviorally-anchored scale. Items sampled confidence in simple as well as difficult situations (Table 1). Children of both sexes from ages three to eight were included in the scenarios.

Subsequent to pretesting in which five items with low variability or very low correlation with total scores were eliminated, the instrument was administered to a random sample of subjects with various levels of experience: 40 students from each of the second, third and fourth year classes; 20 recent graduates with less than two years of general practice experience; and 20 pedodontists. As confidence was expected to be enhanced with experience, differences between groups would provide some evidence of the validity of the instrument. Half of the subjects from each group were requested to fill out an additional Confidence Scale one week later. Analysis of variance was used to test for differences between groups.

**Table 2. Contrasts between groups\***

Group	Mean Score
1. Second year	121.7
2. Third year	120.4
3. Fourth year	129.7
4. Recent Graduates	133.7
5. Pedodontists	185.9

\* All significant at .05 level except contrasts between Groups 1 and 2.

## Results

Eighty-three percent (134) of the subjects returned (within the allotted time) Confidence Scales usable for analysis. Differences among the groups in completing the Scale were not found.

The results in Table 2 show that the highest confidence scores were achieved by those with the great-

est experience (the pedodontists), and the lowest scores by those with least experience (second year dental students). Significant differences between groups were found ( $F = 26.02$ ,  $p .0001$ ); and, with the exception of a comparison of the second and third year students, all other group-to-group differences were significant at the .05 level.

An attempt was made to estimate the internal consistency of the instrument. Corrected item-total correlations were high, ranging from .58 to .87. Coefficient  $\alpha$ , the result of correlating all possible halves of the test, was found to be .96.

An estimate of the stability of the Scale was made by correlating total scores obtained by the same subjects at Time 1 and Time 2, one week later. The correlation found was .85. Correlations for individual items were, of course, lower, ranging from .43 to .85.

## Discussion

In all, the Scale appears to be a viable research instrument to assess confidence in child management. In a previous study, Wurster, Weinstein and Cohen<sup>5</sup> determined that confidence was related to not only dental student child management, but also to child behaviors. Specifically, students who scored below the mean on the Confidence in Child Management Scale used a vastly greater proportion of coercive and permissive behaviors than those who scored above the mean. Moreover, students who scored below the mean had child patients who showed significantly more uncooperative behavior.

Therefore some construct validity is provided. However, not much is known about the effect of experience on successful child management. Internal reliability and stability appear to be adequate. In the future, attempts will be made to explore the diagnostic use of this instrument. Specifically, we will use the instrument to identify dental students who have dif-

ficulties in child management in order to develop a tailored remedial program. In addition, we plan to administer the instrument to a sample of 30 dentists in a naturalistic study of dentist-child interaction. In this future study, confidence and experience will be related to level of dentist and child arousal, child management approach, and child behavior.

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## References

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