

STEPHEN WILSON, DMD, MA, PhD, and ANN SCHRECK, PhD

## Maternal perceptions of child behavior: handicapped versus nonhandicapped

### ABSTRACT

**This study compares the ratings of child behavior in short stories by mothers of children with handicapping conditions versus those whose children had no handicapping conditions. Each of the mothers rated 12 short stories or vignettes and indicated their self-perceived level of stress. The results showed that the mothers of children with handicapping conditions expressed significantly greater stress levels and rated inappropriate child behavior in a more tolerant fashion than the mothers of children without handicapping conditions. This information may be of value to the dentist who treats patients with handicapping conditions, and it provides a greater understanding of the mothers' concerns and daily life stresses.**

**S**TUDIES ON THE RELATIONSHIP between parental functioning and perception to child deviance that is manifested primarily within some behavioral mode have appeared in the psychological literature.<sup>1,2</sup> A more recent report by Middlebrook and Forehand<sup>3</sup> studied nonclinic and clinic (psychological) status mothers. They focused on the relationship of stressful situations as presented in vignettes or ultra short stories to maternal perceptions of three types of child behavior: appropriate, neutral, and inappropriate. Their findings supported the notion that mothers of children with emotional problems tend to be more negativistic and experience more stressful life events.<sup>2</sup>

By analogy, populations of parents (for example, parents of children with handicapping conditions versus those of children without handicapping conditions) may respond differently to child behavior as a consequence of their specific family setting. This study compares the ratings of child behavior as depicted in vignettes by mothers of children who have mentally or physically handicapping conditions to those whose children have no handicapping conditions. In addition, each mother's self reported anxiety was measured during their child's dental appointment.

### METHODS

The samples consisted of 20 mothers who brought their children to the Ohio State University (OSU) College of Dentistry Pediatric Dental Clinic for treatment and 18 mothers whose children had handicapping conditions (primarily mental handicaps, although several had multiple handicapping conditions) and were being treated at Nisonger Treatment Center. Nisonger is a facility housing interdisciplinary clinics, including dentistry, that treats children with multiple handicapping conditions.

Twelve vignettes or ultra-short stories from the study by Middlebrook and Forehand<sup>3</sup> were used (six) or modified (six) according to their methodology. Briefly, the vignettes consisted of one of two levels of stress (a high or low level) and a child's behavior (either appropriate, neutral, or inappropriate). The vignettes depicted a situation of a mother who was experiencing either a high-stress or a low-stress situation and a particular child behavior that occurred within that situation (Fig 1). Each subject evaluated a set of 12 vignettes with each combination of stress and child behavior occurring twice (two levels of stress x three levels of child behavior= six combinations).

#### (High-stress situation)

**Mom just received a telephone call about her sister who underwent exploratory surgery. She just found out her sister has cancer.**

**Johnny comes in the house from playing and Mom reminds him that they need to go to the dentist this afternoon to get the small cavity in his tooth fixed. He responds by saying, "Can my friend go with us, Mom?"**

#### (Low-stress situation)

**Mom has had a great morning. The baby is still next door at the babysitter's and all of the housework has been done. Johnny comes home from kindergarten and is in a very grumpy mood. Mom notices a bruise on his face and asks him what happened. He responds by yelling, "Leave me alone."**

Fig 1. Examples of vignettes.

A. Stress (2 per category)
High
Low
B. Scene (1 per category)
Kindergarten
Dental
C. Child's response (1 per scene)
Appropriate
Neutral
Inappropriate
Fig 2. Composition of vignettes.

Although the two levels of stress used by Middlebrook and Forehand<sup>3</sup> were not altered in any vignette, that aspect of the vignette depicting child behavior was modified in 50% of the vignettes. Their child behavior occurred within the framework of a kindergarten scene and depicted an incident involving the breaking of a cookie jar. In this study, half contained the kindergarten scene and the others were modified in the following manner to a dentally related scene.

A prestudy group of mothers was used to develop the dentally related scene. Ten mothers were given the scene and 13 different child responses. They were asked to rate each response on a seven-point Likert scale (1 = socially acceptable, 4 = neutral, 7 = socially unacceptable). This procedure was repeated using the same set of mothers and an interim of 1 week. The child behavior with the lowest mean rating was selected as the appropriate behavior, that behavior closest to 4 selected as neutral, and that behavior with the highest mean rating was used as inappropriate behavior.

With the four different stress situations (two high and two low), the two scenes (kindergarten and dental) and three child behaviors associated with each scene, there were 24 different possible combinations (Fig 2). The final 12 vignettes were randomly selected from all the combinations of the two stress levels, two scenes, and three different child responses with each being represented an equal number of times (six high and low stress, six kindergarten and dental scenes, and four appropriate, neutral, and inappropriate child behaviors).

When the mothers at each site brought their child for dental treatment, each was requested to rate the 12 vignettes in terms of how deviant they perceived the depicted child's behavior. A seven-point Likert scale (1 = not at all deviant, 4 = neutral, 7 = very deviant) was used to rate the vignettes.

The mothers were also requested to answer a brief questionnaire for demographic information and to rate their self-perceived level of stress during the dental visit by making a vertical mark on a 11-cm horizontal line, which was weighted at the ends by either "no stress" or "extreme stress."<sup>4</sup>

## RESULTS

The two groups of mothers did not differ in terms of age, number of children, and marital status; however, they did differ in their educational level. The Nisonger mothers had reached significantly higher educational levels compared with the OSU mothers (Table 1).

The self-indication stress levels of the two groups of mothers were significantly different ( $t=2.06, P<.04$ ). The ratings of self-indicated stress levels of the Nisonger mothers were higher than those of the OSU mothers (Table 2).

Factor	Mean± SD	Statistic	P
Age			
OSU dental school (20)	35.7 ± 7.5		
Nisonger (18)	37.9 ± 7.8	0.90*	.37
Number of children			
OSU dental school	2.7 ± 1.3		
Nisonger	2.8 ± 1.5	0.17*	.87
Marital status			
OSU dental school	19.1 (rank)		
Nisonger	20.0	171.5t	.81
Educational level			
OSU dental school	15.4 (rank)		
Nisonger	24.1	97.5t	.02
*Independent I-test. tMann Whitney U.			

Site (N)	Mean (cm)	SE	t	P
OSU dental school (20)	2.18	0.50	...	...
Nisonger (18)	3.85	0.63	2.06	.04

Group	Child behavior*		
	Appropriate	Neutral	Inappropriate*
OSU dental school (20)	1.28	1.68	4.36
Nisonger (18)	1.31	1.51	2.94
*Higher numbers = higher ratings of child deviance. t = 2.86, P < .007.			

Individual t-tests indicated no significant difference between the two groups in the rating of vignettes involving appropriate and neutral child behavior; however, the Nisonger mothers rated inappropriate behavior significantly less deviant than that of the OSU mothers ( $t=2.86, P<.007$ ) (Table 3).

Comparisons of ratings of child behavior within groups showed that the OSU mothers rated each child behavior category of appropriate, neutral, and inappropriate child behavior as being significantly different from one another. The Nisonger mothers rated inappropriate and appropriate as being significantly different as were the categories of neutral and inappropriate, but they did not rate the categories of appropriate and neutral as being significantly different (Table 4). Overall, the Nisonger mothers tended to rate child behavior as less deviant than did the OSU mothers.

The two groups of mothers significantly differed in their ratings across all child behaviors during high stress vignettes ( $t=2.10, P<.04$ ). Here again, the Nisonger mothers rated child behavior in high stress situations as less deviant than did the OSU mothers. Although the two groups approached significance in terms of ratings across all child behaviors during low stress vignettes, the differences were not significant (Table 5).

## DISCUSSION

The two groups of mothers were similar in age and in their number of children. They differed with respect to their levels of education with the Nisonger mothers, as a group, having attained a higher level. The significance of this difference in terms of its potential influence on the purpose of this study is

**Table 4. Comparison of rating of child behavior within 2 groups.**

OSU dental school	I	p	Nisonger	I	p
N-A	2.14	.05	N-A	1.15	.26
I-A	7.92	.001	I-A	5.24	.001
N-1	7.05	.001	N-1	4.59	.001

**Table 5. Comparison of ratings between Ohio State University and Nisonger mothers of child behavior within vignette stress levels.**

High stress	Low stress
$t = 2.10, P < .04$	$t = 1.75, P < .08$

unknown. It is possible that those with a higher education may have shown a higher stress level as a result of their higher drive to excel as evidenced by their educational status.

The results indicated that the Nisonger mothers tend to perceive greater self-stress than OSU mothers under the conditions studied. This suggests that the mothers of children with handicapping conditions, as a group, may be under greater stress

---

***The mothers of children with handicapping conditions, as a group, may be under greater stress during visits to the dental clinic than mothers of children without handicapping conditions.***

---

during visits to the dental clinic than mothers of children without handicapping conditions. This finding may not be unexpected, but to our knowledge, has not been reported previously in the dental literature. Similar findings that parents of children with handicapping conditions have greater stress as a parent have been reported in the psychological literature.<sup>5,7</sup> It can be speculated that this phenomenon is a complex but generalized learned response and may be transferable to many types of social settings depending on the coping strategy of the parent.<sup>8</sup> It is imperative that the dentist make a concerted effort to provide support of the parent's conviction to seek routine dental care for the child with handicapping conditions and take a strong caring attitude in interacting with these parents. An understanding of this stress may aid the dentist in coping with these parents.

The dental personnel may become more self-confident in dealing with these parents by understanding the latter's feelings and, in so doing, provide positive assurances in helping the parent and child during the dental visit. In return, the parents may sense the concern and understanding, and gain a more trustful attitude toward the dental care provider, which may indirectly contribute to an amelioration of the stress.

The analogy and implications of these findings to that of maternal anxiety and its influence on child behavior during routine dental appointments could be explored further. For instance, it has been reported that maternal anxiety is related to child behavior in the dental operator.<sup>9</sup> It remains to be determined to what degree children with handicapping conditions, or more specifically subsets of children with handicapping conditions, can become aware of their parent's anxiety and react

similarly to other children in dentally related circumstances. A child's behavior is related to the consequence of how the parent perceives and interacts with the child.<sup>10</sup>

Although there were no significant differences between the two sets of mothers in their rating of appropriate and neutral child behaviors, inappropriate child behaviors were significantly different. In general, the Nisonger mothers rated all levels of child behavior as less deviant. This may suggest that the mothers of children with handicapping conditions perceive child behavior, especially extreme behaviors, in a more tolerant mode than other mothers. Possibly, their discriminatory ability or reactivity in evaluating child behavior has been altered because of their circumstances.

The OSU mother's ratings of child behavior were numerically similar to those of the nonclinic mothers (control group) in the study by Middlebrook and Forehand.<sup>3</sup> This would support the idea that this type of evaluation of maternal perceptions of child behavior is reliable across studies. In that study, the clinic mothers whose children were referred for behavioral problems rated neutral behavior as more deviant compared with the nonclinic mothers; however, the ratings of appropriate and inappropriate behaviors were not significantly different between groups. They suggested that in the ambiguity of the neutral response, the clinic mothers would rate child behavior as being more deviant. Possibly the Nisonger mothers had learned to cope with their children's problem from birth (the primary source of the handicapping condition), whereas mothers in the other study had to learn to cope with aberrant behavior developed at an older age. This would lend support to a hypothesis that a different set of parents would rate child behavior in a differential manner, depending on their situation in the home environment.

Similarly, when the two groups of mothers in this study rated high stress vignettes, the Nisonger mothers rated the behavior as less deviant. This suggests that implied high stress within the vignettes had less effect on the Nisonger mothers than it did with the OSU mothers. The Nisonger mothers could have been compensating through a type of learned behavior or defense mechanism. Alternatively, they may have been more depressed and failed to respond to extreme behaviors in a normal manner. Significant and profound life events have been related to the onset of depressive disorders.<sup>11</sup>

In conclusion, the findings of this study indicated that mothers of children with handicapping conditions may have higher levels of self-perceived stress when their children are being

---

***It is possible that implied high stress within the vignettes had less effect on the Nisonger mothers than it did on the OSU mothers.***

---

seen at a dental clinic compared with those of children without handicapping conditions. The mothers of children with handicapping conditions rated inappropriate behavior as significantly less deviant than the mothers whose children had no handicapping conditions. This indicates that, in general, mothers of children with handicapping conditions may perceive child behavior in a more tolerant fashion. Confounding factors, such as different levels of implied stress in vignettes, altered the response patterns observed between the two groups of mothers.

Vignettes may be useful as indirect indicators of maternal perception of child behavior, but the population of mothers and the type of clinic status may be influential factors in determining the outcome of the ratings.

## SUMMARY

Mothers of children with handicapping conditions may have increased levels of stress that influence their perception of child behavior. Dental personnel should be aware of this phenomenon and strive to reduce the anxiety of these mothers during dental visits.

Dr. Wilson is assistant professor, department of pediatric dentistry, and Dr. Schreck is assistant professor, department of community dentistry, Ohio State University, College of Dentistry, Columbus, OH 43210. Address requests for reprints to Dr. Wilson.

1. Holleran, P.A., and others. A signal detection approach to social perception: identification of negative and positive behaviors by parents of normal and problem children. *J Abnorm Child Psycho!* 10:547-558, 1982.

2. Mash, E.J., and Johnston, C. Parental perceptions of child behavior problems, parenting self esteem and mother's reported stress in younger and older hyperactive and normal children. *J Consult Clio Psychol* 51:86-99, 1983.

3. Middlebrook, J.L., and Forehand, R. Maternal perceptions of deviance in child behavior as a function of stress and clinic versus nonclinic status of the child: an analogue study. *Behav Ther* 16:494-502, 1985.

4. Huskisson, E.C. Visual analogue scales. In Melzack, R., ed. *Pain measurement and assessment*. New York, Raven Press, 1983, pp 33-37.

5. Tavormina, J.B., and others. Psychological effects on parents of raising a physically handicapped child. *J Abnorm Psycho!* 9:121-131, 1981.

6. Kogan, K.L.; Tyler, N.; and Turner, P. The process of interpersonal adaptation between mothers and their cerebral palsied children. *Dev Med Child Neural* 16:518-527, 1974.

7. Schilling, R.F., and Schinker, S.P. Personal coping and social support for parents of handicapped children. *Child Youth Serv Rev* 6:195-206, 1984.

8. Shalit, B. Structural ambiguity and limits to coping. *J Human Stress* 3:32-45, 1977.

9. Johnson, R., and DeWitt, B.C. Maternal anxiety and child behavior. *ASDC J Dent Child* 36:13-18, 1969.

10. Griest, D.L., and Wells, K.D. Behavioral family therapy with conduct disorders in children. *Behav Ther* 14:37-53, 1983.

11. Finlay-Jones, R.A., and Brown, G.M. Types of stressful life events and the onset of anxiety and depressive disorders. *Psycho! Med* 11:803-815, 1981.

---

## NCDS sponsors program on older adults

The Nassau County Dental Society (NCDS) in New York sponsored a program on practice and treatment concerns of the older patient. This special program celebrates the society's 40th anniversary,

The program, "Expand your practice—a new market for dentistry: treating the senior patient," was held April 27, 1988, in Uniondale, NY. NCDS executive director, Herbert L. Taub, said "We're focusing this year on the senior citizen, because this is where the dentist should be looking to meet the needs of the community and expand his or her practice."

Dr. Saul Kamen, chief emeritus of dental service for the Jewish Institute for Geriatric Care, spoke about clinical management of older patients who are medically compromised. Other topics included financing of health care, decision making, oral health in the patient with dementia, periodontal treatment, among others.

For more information about the program, contact NCDS, 165 N Village Ave, Rockville Center, NY 11570; 516-764-9620.