Group effect on parental rating of acceptability of behavioral management techniques used in pediatric dentistry

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Abstract

The rating of acceptability by parents either in groups of five or alone of behavior management techniques (BMT) displayed in videotaped vignettes was studied. Ratings of acceptability of the techniques for use on "a" vs. "their" child also were evaluated. Sixty parents were divided randomly into two groups (A and B). For Group A, six groups of five parents viewed a videotape containing eight BMT. All parents in Group B viewed the same videotape individually. Following the presentation of each BMT, the parents were requested to rate the technique for acceptability using a visual analogue scale (VAS). One half of Groups A and B were told to rate the acceptability of each BMT for use on "a" child. The remaining parents in Groups A and B were told to rate the acceptability for "their" child. The results indicated that there were no significant differences between groups (groupings of five vs. alone) or "their" and "a" child ratings. However, there was a consistent trend for those in groups to rate BMT as less acceptable than those rating alone. The implications of these findings are discussed in reference to findings of previous studies. (Pediatr Dent 13:200–203, 1991)

Introduction

It was suggested by Lawrence (1989) that the method of measuring parental attitudes of child behavior management techniques (BMT) associated with the delivery of dental care may influence the outcome. Specifically, he indicated that parental attitudes, when measured in a group setting, may differ from those obtained from individuals. This suggestion is plausible, as peer pressure and social influences on attitudinal dimensions have been documented in classic studies (Asch 1952; Asch 1956; Smith et al. 1989; Tetlock et al. 1989) and are used frequently in the fields of marketing and advertising.

Catalysts for the studies of Lawrence (1989) and Lawrence et al. (1991) were the studies by Fields et al. (1984) and Murphy et al. (1984) in which parental attitudes on BMT in dentistry as a function of treatment categories were assessed. They found that the level of parental acceptability in the use of different BMT varies and is contingent on the dental situation or task wherein the techniques are applied.

The findings of Fields et al. (1984) and Murphy et al. (1984) were based on ratings obtained from parents who viewed videotapes of certain BMT in groups. Measurement of attitudes within this type of setting allowed for the possibility of nonverbal communication, which may have affected the results.

Lawrence et al. (1991) had parents rate specific BMT as depicted in videotapes individually in a private setting. One might expect that any differences among these studies (Lawrence 1989 and Lawrence et al. 1991 vs. Fields et al. 1984 and Murphy et al. 1984) may be due in part to the setting (viz., private vs. group viewing) afforded the parents during the rating phase.

Another distinct difference in the methodologies among these studies was the instructional bias to rate either "their" child (Fields and colleagues) or "a" child (Lawrence and colleagues). Here again, such a distinction may impart a mental set to the parents and affect the outcome of the studies.

The purpose of this study was to assess the effect of group vs. individual viewing on the parental rating of BMT and to test for differences from the parent's perspective of the acceptability of various BMT either on "their" or "a" child.

Methods and Materials

Sample

The sample consisted of 60 adults who were selected randomly from parents accompanying their children to Columbus Children's Hospital evening dental clinic. The parents in the sample were assigned randomly to either Group A or Group B (30/group). The parents in Group B viewed and rated videotaped vignettes as individuals in a small conference room (12' by 10'). Group A involved groups of five parents simultaneously viewing and rating vignettes in the same conference room as Group B. The parents viewed the videotapes between 5 and 9 pm.

Videotapes and Rater Instructions

The videotapes and sequences of BMT were those used by Lawrence (1989). Eight different vignettes, each demonstrating a BMT, were produced using a VHS recorder (Panasonic AG-100 Camcorder) and a lavalier microphone (Shure SM-11) and incorporated into a master VHS tape. The BMT included a) tell, show, do (TSD); b) voice control (VC); c) hand-over-mouth (HOM); d) active restraint which included restraint by dental personnel (AR); e) passive restraint which showed the use of a Papoose Board® (Olympic Medical Group, Seattle, WA) (PB); f) nitrous oxide and oxygen inhalation (N_2O); g) oral premedication (OP); and h) general anesthesia (GA).

Each vignette lasted approximately 60 sec and showed a BMT used during an actual dental appointment on children between 3 and 5 years old. The dentist was the same in each vignette and five faculty members of The Ohio State University Department of Pediatric Dentistry judged the vignettes for appropriateness in the use of the BMT and its success. Taping sessions were repeated until acceptable examples of all BMT were recorded.

The contents of the final videotape included the eight BMT with the name and a brief rationale preceding each BMT and a 10-sec rating period following the vignette of the BMT. During the 10-sec rating period the parents were requested to rate the acceptability (i.e., "How acceptable is this technique?") of the BMT using a visual analogue scale (VAS, Clark and Spear 1964).

The VAS was a 100-mm horizontal line anchored at either end by the descriptions "Totally Acceptable" (left anchor) and "Totally Unacceptable" (right anchor). The parents indicated their degree of acceptability by making a vertical mark on the VAS. The distance in millimeters from the left hand limit of the horizontal line to the vertical mark for each BMT was the dependent variable.

Instructions were given to parents of both groups before they viewed the videotape. The instructions for both groups were the same and included a brief overview of the contents of the videotape. However, half of each group was told to "rate the BMT for acceptability for use on their child" and the remainder were told to "rate the BMT for acceptability for use on a child."

Data Analysis

A repeated measures ANOVA was done to determine significant difference across BMT as a function of Groups A and B. A second repeated measures ANOVA was used to determine any significant difference across BMT as a function of Groups A and B with "a" vs. "their" child nested within groups. All statistical analyses were done with the SPSS-PC+ software program, and an a priori level for acceptance of statistical significance was set at $P \leq 0.05$.

Results

Seventeen males and 43 females (mean age = 30.5 ± 6.7 years) participated in this study. A cross-tabulation procedure with Chi-square analysis indicated that there were no significant differences between groups (either group vs. individual rating or groups instructed to rate "a" vs. "their" child) for demographic factors. Summary information of demographic variables for the sample is seen in the Table.

Table. Demographic information of those parents participating in this study

Factor	*Summary*
Gender	43 Females
	17 Males
Race	40 Caucasian
	15 Black
	5 Other
Marital Status	33 Married
	12 Divorced
	11 Single
	4 Other
Education	1 < 8 Years
	16 8–11 Years
	25 High School Grad
	18 College or >

A repeated measures MANOVA with BMT being repeated within subjects and compared across groups (individual vs. group viewing) indicated that differences between groups approached, but were not statistically significant ($F = 3.29$, $P = 0.075$). However, when graphically displayed there was a consistent trend on the average for the parents in "groups" to rate each technique as less acceptable than those rating as individuals (Figure, see next page). There was a statistically significant difference among techniques within subjects ($F = 23.86$, $P < 0.001$), but no interactive effect between techniques and groups.

When a repeated measures MANOVA was performed wherein "a" vs. "their" child was nested within groups (group vs. individual viewings) to match the design of the study, there was no significant nesting effect noted (viz., there was no difference in rating "a" vs. "their" child between parents rating as a group or individuals), nor any interactive effect between nested groups and techniques. Consistent with the first ANOVA, there was a significant difference among techniques within subjects ($F = 23.69$, $P < .001$).

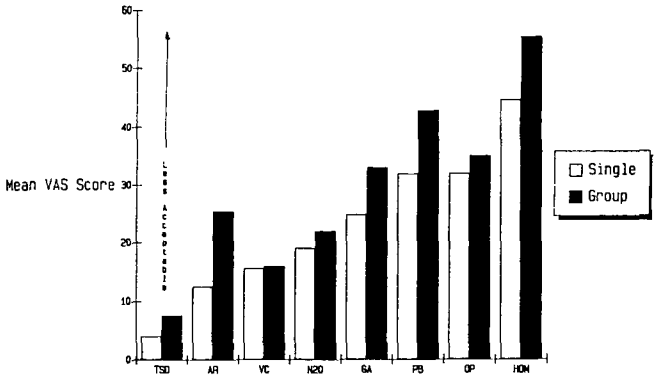

Figure. A bar graph indicating the mean score (mm) of the VAS as a function of the BMT. Clear bars indicate ratings by parents individually and solid bars indicate ratings by parents in groups of five.

Discussion

The results indicated that although not statistically significant, there was a tendency for those parents who rated vignettes as a group to express less acceptance of the BMT than those who made individual ratings. Interestingly, the trend was consistent across BMT and one author (DA) who administered the videotapes indicated that there were common incidents of frank emotionally laden sounds made during the showing of certain techniques. These findings would suggest that when the vignettes are viewed as a group, there exists the likelihood of subtle communication among participants. This supports speculation that when the vignettes were viewed in a group setting there is expressed a "social" factor having the impact of a more stringent attitude toward acceptability of certain techniques. This factor would be absent when the vignettes are viewed alone, and may account for a more acceptable attitude.

Notably in the studies of Fields et al. (1984) and Murphy et al. (1984), the parents rated videotaped vignettes in groups and demonstrated a less favorable attitude toward BMT than those involved in either this or the Lawrence et al. (1991) study. It should be cautioned however, that direct comparison between these studies is impossible due to differences in several important factors including different samples of parents, methods of rating the tapes, and videotaped contents.

It may be that in the study by Lawrence et al. (1991), the parents were familiar with the primary investigator who both recruited them into the study and was the operator in all vignettes shown on the videotape. In this study, the parents were not familiar with the individual (DA) who recruited them into the study, nor was she present in any of the videotaped vignettes. The factor of familiarity of the parents with the investigator who recruits parents into studies designed to extract attitudinal information may be of paramount significance. Conceivably, the "direction" of acceptability (viz., either more or less acceptable) may be influenced by this factor. Interestingly, the mean VAS ratings of each BMT in the Lawrence et al. (1991) study uniformly were less than this study, indicating more acceptability of the techniques.

Not surprisingly, GA, PB, OP, and HOM were perceived as less acceptable techniques in both this and Lawrence's study (1989). It is reasonable to expect that these techniques appeared to the parents to be more aggressive. Fields et al. (1984) reported that the order of acceptability of BMT appears to be a function of the dental procedure to be performed. For instance, GA would be least acceptable for an oral examination but more acceptable for restorative procedures. Clearly, such factors have an influence on the outcome on parental ratings of BMT. Further clarification of relevant dimensions among these factors in their impact on parental ratings seems warranted.

Surprisingly, there was no difference between groups who were asked to rate techniques for acceptability based on the discriminatory categorization of "a" vs. "their" child. There are several plausible explanations for this finding. Although the parents were instructed at the beginning of the videotape session to rate the BMT for either "a" or "their" child depending on their group assignment, this instructional bias may have been overridden or diminished by the audio instruction ("How acceptable is this technique?") on the videotape during the 10-sec rating period following each vignette. In retrospect, the study design would have been more consistent if the audio portion of the videotape had matched the instructional bias given at the beginning of the viewing session.

Finally, discriminating between "a" child and "their" child may not have been relevant to many of the parents as they may have had expectations of their children's behavior in the dental setting that were inconsistent with the use of many of the techniques. The importance of discriminating and rating BMT as a function of relevancy to the parent's child or a hypothetical situation seems unanswered and warrants further investigation.

It is obvious from these studies that subtle differences in methodology can have a significant influence on the outcome of any attitudinal study whenever parents are requested to rate BMT for use on children. The extent of those differences as well as factors concomitant to the methodologies will require resolution in future studies. Ultimately, it is dentists who must render appropriate treatment with all the ancillary BMT at their disposal. Whether the parent's attitude will interfere with or alter the rendering of such care is an important consideration, but it is the well informed parent

(and child) who more likely will accept a broader range of management techniques under any given clinical situation (Lawrence 1989).

Conclusion

Small groups of parents viewing BMT tend to rate them as less acceptable than parents viewing the same BMT individually; however, this effect is not significant. The acceptability of the BMT does not appear to be influenced by the distinction of rating the BMT in reference to either "a" child or "their" child.

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Sports facial injuries can be prevented

One of the most vulnerable and least protected parts of the body is the face. Athletes involved in contact sports have a 10% chance every season of sustaining an orofacial injury, and a 45% chance of sustaining such an injury during their playing careers.

Drs. Marilyn Miller and Thomas F. Truhe, directors at the Princeton Dental Resource Center, wrote that an intraoral mouthguard can prevent injuries and preserve oral structures. The authors, in their article in the February, 1991 *Journal of the American Student Dental Association*, noted that mouthguards prevent nearly 200,000 oral injuries every year in the United States.

Mouthguards offer protection from direct injury, such as from a hockey stick smashing the teeth, and from indirect injury, such as a fall. Custom-fitted mouthguards are especially beneficial to athletes undergoing orthodontic treatment. Mouthguards can be designed to permit tooth movement during their use.

Mouthguards should be replaced every two to three years, because the material deteriorates over time and loses resilience . Mouthguards have been recommended for more than 20 years, but have not been embraced uniformly by the athletic community. The National Collegiate Athletic Association has mandated use of mouthguards for football, ice hockey, men's lacrosse, and women's field hockey.

One study revealed that 52% of all orofacial injuries occur in sports other than organized football; baseball and basketball have more orofacial injuries.