Orthodontic Compliance/Non-compliance and Treatment Success

by Gerald S. Samson, D.D.S.

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From 1982 - 1987 Dr. Gerald S. Samson and Dr. Alan M. Gross studied various aspects of orthodontic patient compliance and non-compliance. Alan Gross, Ph.D. is Professor of Psychology, University of Mississippi. Their research has been supported by the National Institute of Health, Division of Behavioral Medicine (Grant DEO 7978). The following is a practical and clinical synopsis of Dr. Samson's opinions based on both his research and clinical applications. The “Notification of Poor Compliance” office form is offered as a practical and necessary adjunct to clinicians.

Diagnosis, prognosis, treatment plan and retention design have been brilliant. The clinician has an image of the successful end result, and it is time for corrective therapy to begin. Like a modern day Merlin, the orthodontist divines a headgear about the dentofacial altar, deftly places and activates the utility arch, and evokes an ectoplasmic image of Dr. Edward Hartley Angle. Confidently, the predicted treatment response is anticipated. For some, however, the “long lament” has begun. The case may be on the track of a compromised end result, or doomed to dismal failure. The patient may be non-compliant, and without compliance the brilliance of our magic will have a constipated and frustrating fate.

Intuitively, it seems reasonable to conclude that patient compliance/non-compliance exists along a continuum - that is, a patient may be cooperative concerning some aspects of treatment, and not cooperative with others. Although there are some data in the medical literature to suggest that patients are often selective concerning which aspects of their treatment program they will adhere to, no orthodontic studies had examined this issue.

The purpose of our study was to examine further the question of whether children are uniformly compliant/non-compliant or if they display distinct differences regarding the manner in which they respond to treatment instructions. Seventy-five children
between the ages of 8 and 14 years of age were patients at a university orthodontic program, and served as subjects for the study.

Patients were rated on the level of success they displayed in three areas:
1. Compliance with the use of “auxiliaries” (e.g., headgear and intraoral elastics),
2. Dietary restrictions (i.e., frequency of broken brackets, wires, and appliances), and
3. Adequacy of oral hygiene were all under our scrutiny.

Independent rating by a second orthodontist was obtained on all measures at approximately 15% of the assessments. Average inter-rater agreement exceeded 80% for each measure.

A multiple Pearson correlation was performed on the data. Significant correlations were observed between oral hygiene and broken brackets and appliances ($r = -0.37, P < 0.0001$) and oral hygiene and use of auxiliaries (e.g., headgear) ($r = 0.23, P < 0.02$). The relationship between the use of headgear and frequency of broken appliances was not significant. The orthodontists’ ratings of overall level of cooperation correlated with each measure of compliance (hygiene, $r = 0.36, P = 0.001$; broken appliances, $r = -0.33, P < 0.0001$; headgear, $r = 0.42, P < 0.0001$). Since the data are correlational and not necessarily causal, caution must be exercised when interpreting these results. However, the data show that children may be selective concerning which aspects of the orthodontic regime they will follow.

Gross and Samson (1985) have also suggested that orthodontic noncompliance be viewed as a discrete problem rather than a general behavior style. In the 1985 paper, we discussed the levels of predictability that might exist using a parent’s attitude of how compliant or non-compliant the patient might be. This also included a view of how well the patient was doing at school, and how well the patients themselves thought that they would do during their headgear wear, dietary restrictions, and need for adequate oral hygiene. The parental ability to predict compliance, and how well a patient was doing at school were less impressive in indicating orthodontic regime cooperation. Patient “self-perceptions” (global self-worth) were more significant.

The most substantial correlation, however, was found with the person treating the patient. That is, patients were most compliant with their treatment regimes when they “liked” the person treating them. The clinician should be aware, therefore, that a patient is far more likely to be compliant if that person has a positive opinion of the clinician. This compliant behavior may extend to parental responsibilities of office appointment times, keeping current with payment schedules, and parent/patient referrals to the practice. Dr. Robert M. Ricketts has advised that the most important thing we do as clinicians is to motivate patients, and that motivation is an essential key to compliance of all types.

While our office does a lot of what I might refer to as typical motivating, e.g., consistently providing accurate information as to the patient’s progress and hygiene in a pleasant atmosphere, we also motivate with information to both the parent and child. The “Notification of Poor Compliance” form that is used in our office has been very successful in getting both the parent and the child’s attention. As well, and due to informed consent liability, this type of written notification is essential. Only rarely have we had to resort to removing braces from a truly defiant patient.

It can be seen that the patient’s perception of the individual providing treatment to them is of paramount significance.

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**REFERENCES**


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