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ABSTRACT

In this study a 4-component procedure designed to decrease a 4-year-old child's noncompliance behaviors was experimentally analyzed as to the effectiveness of the separate components of the package. Once experimental control had been demonstrated and the subject's noncompliance behaviors had been decreased to an acceptable level, separate analyses of the program components were initiated. Program components were: (1) consistent instructions, which involved making sure that the subject complied by reissuing the instruction so that the subject knew what was expected of him; (2) physical aid or "put-thru," which involved actually aiding the subject to pick up blocks, move furniture or remain in a large group; (3) time-out, which was used as a back-up for noncompliance and required the subject to sit on a chair for 60 seconds without getting off or tantrumming; and (4) teacher attention specifically praising the subject for compliance. Results indicated that the total package manipulation was most successful in decreasing all noncompliance behaviors. When contingent teacher attention alone was used, noncompliance behaviors increased gradually to above baseline rates. The condition combining consistent instructions, "put-thru and contingent teacher attention yielded a considerably lower range of noncompliance behaviors. The condition combining contingent teacher attention with consistent instructions over time brought noncompliance to under 10% but proved less effective than the total 4-component manipulation. (Author/SB)

# Experimental Analysis of a Four-Component Procedure for Decreasing Noncompliance in a Preschool Child

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Abstract

A four-component procedure designed to decrease a preschool child's noncompliance behaviors was experimentally analyzed as to the effectiveness of the separate components of the package. The total package consisting of consistent instructions, physical aid ("put-thru"), chair and/or room time-out and contingent attention was implemented initially in an attempt to decrease the considerable amount of noncompliant behavior exhibited by the subject. Once experimental control had been demonstrated and the subject's noncompliance behaviors had been decreased to an acceptable level, the separate analyses were initiated. Consistent instructions involved making sure that the subject complied by reissuing the instruction so that the subject was sure of what was expected of him. Physical aid or "put-thru" involved actually aiding the subject to pick up blocks, move furniture or to remain in large group. Time-out was used as a back-up for noncompliance and required the subject to sit on a chair for 60-sec without gettting off or tantrumming. If the subject did get off the chair or tantrum, he was placed in a small room adjacent to the preschool room until he stopped tantrumming. When compliance did occur without the necessity of time-out, the subject received contingent teacher attention specifically praising him for compliance. The total package manipulation was most successful in decreasing all noncompliance behaviors. When contingent teacher attention only was implemented noncompliance behaviors increased gradually to above baseline rates. The following condition combining consistent instructions, "put-thru" and contingent teacher attention yielded a considerably lower range of noncompliance behaviors. The final condition combined the previously unsuccessful contingent teacher attention with consistent instructions which over time was able to bring non-compliance to under 10% but proved to be less effective than the total four-component manipulation.

Frequently prescriptions for eliminating or decreasing "inappropriate" classroom behaviors of children involve procedures comprising several different components (Medland and Stachnik, 1972). Rather than relying on only one procedural component, several potentially successful procedures are simultaneously applied for assured and rapid change.

Such tactics are most efficient for rapidly changing behavior and are useful when the behavior to be modified is severe and potentially dangerous. However, combining many procedures may not be the simplest and most efficient approach for a teacher whose concern is how much time and effort must be expended. Complicated procedures, involving many prescriptive components and which require teachers to engage in many behaviors to effect change in a target child's behavior, may never be implemented or may not be ideally systematic if teachers have many other children and many other duties to perform in the classroom. Therefore, analyses of separate and combined modification procedures could demonstrate which procedures require the least amount of time and effort for the person effecting these changes and further which is most effective for rapid change.

In the present study a four-component modification procedure was implemented by teachers to decrease a preschool child's non-compliance. The subject of the study was a 4-yr, 10-mo-old boy enrolled in a university preschool class. Child behaviors selected for study were: compliance to teachers' instructions and to classroom routine, as well as disruptive non-compliance. The subject complied with instructions if he initiated what he had been asked within 30" after the issuance of the instruction.

If the subject engaged in the same appropriate behavior in which his peers were engaged, e.g., sitting for a story, sitting in large group, singing, not talking in situations, he was complying to the ongoing routine of the preschool class. If the subject did something other than what the teacher had instructed him to do and was also distracting the peer group, e.g., running or yelling when others were engaged in quiet activity, he was engaging in disruptive non-compliance.

The four components of the procedure used by the teachers to decrease his non-compliance were: 1) consistent instructions, 2) physical aid to assure compliance ("put-thru"), 3) contingent attention for compliance, and 4) chair and/or room time-out for non-compliance. Consistent instructions involved restating instructions to remind the subject of what he was expected to do until he complied. Physically helping the subject to pick up blocks, move furniture, or to sit during group participation times was physical aid or "put-thru", (i.e., putting the subject through the motions). Chair time-out consisted of sitting the child on a chair for 60-sec. If he remained on the chair without tantrumming, he was allowed to resume normal activities. If he tantrummed or left the chair, he was placed in a small lighted room adjacent to the preschool room for 60-sec or if tantrums continued, until 60-sec after his last audible tantrum.

Data were recorded in 10-sec intervals by a trained observer. The subject was observed during the last part of free-play time for approximately 5-min, during clean-up time and finally during large group which consisted of stories, music or language activities. Total observation time averaged 30-min daily. Reliability was taken at least once during

each experimental condition. An agreement was scored only if both observers recorded all of the same behaviors in the same interval. There were a total of four possible behaviors scored in each 10-sec interval. Reliability was computed by dividing the number of agreements on each behavior by the total number of agreements plus disagreements. Mean reliability across all conditions for non-compliance to instructions, routine and disruptive non-compliance was 98% and mean reliability for instructions, "put-thru" and contingent teacher attention was 92%.

(Slide 1) The top graph shows the percent of non-compliance to instructions, the middle graph shows the percent non-compliance to routine, and the bottom graph shows the percent disruptive non-compliance. During baseline the subject was non-compliant to 56% of the instructions, and non-compliant to routine 47% of the time observed. When the 4-component procedure was implemented, chair time-out and room time-out were used if non-compliance occurred and the subject received contingent teacher attention specifically praising him for compliance when it occurred. Teachers also physically aided the child to follow instructions and repeated their instructions until he complied. This resulted in decreased non-compliance to routine to a mean of 7% (middle graph, condition B) and decreased non-compliance to instructions to a mean of 16% (top graph,condition B) as well as decreased disruptive non-compliance (bottom graph, condition B). Removal of the procedure (condition $A_2$) resulted in the resumption of non-compliance to routine and instructions to a level comparable to the original baseline condition. However, the disruptive non-compliance (bottom graph, condition $A_2$) did not return to the original baseline level although it did increase.

Resumption of the four-component procedure (condition $B_2$) again resulted in decreased non-compliance. Disruptive non-compliance decreased to zero during most of this condition (bottom graph). In fact, disruptive non-compliance remained low throughout the remainder of the experiment (fig 1, graph 3).

To analyze which of the components was most functional for maintaining this decreased level of non-compliance, a condition of contingent teacher attention for compliance was implemented. Instructions were not re-stated, physical "put-thru" did not occur, and time-out was not used.

With only teacher attention for compliance (condition C), non-compliance to instructions and routine gradually increased from its modified low level during the four-component procedure to above the second baseline level for both non-compliance to instructions (35%, top graph) and non-compliance to routine (27%, middle graph). This condition was functionally similar to baseline and it was concluded that contingent teacher attention without the other components was not sufficient to maintain the low level of non-compliance achieved with the four-component procedure. When all components of the procedure except for time-out were resumed (i.e., consistent instructions, "put-thru" and contingent teacher attention were combined into a three-component procedure), non-compliance decreased to levels of previous manipulations which included time-out (condition D). Therefore the three-component procedure, at least, at this point in time, was functionally similar to the four-component procedure which included time-out. It cannot be ascertained from these

data whether the three-component procedure would have been equally effective for initially decreasing non-compliance.

In the final condition (E) physical aid was eliminated from the procedures leaving consistent instructions combined with the previously unsuccessful contingent-attention-only condition. These procedures initially increased non-compliance to instructions (top graph) but eventually decreased it to under 10%, a level lower than baseline but higher than during the four-component manipulation. In the last eight sessions of this condition most of the non-compliance was to the routine of the classroom (middle graph) rather than to specific instructions presented to the subject by the teachers. In all previous conditions and in the first twelve sessions of this last condition most of the subject's non-compliance had been to teacher instructions.

(Slide 2) Throughout the study the number of instructions varied but inconsistent instructions (open circles) were decreased in all conditions where the manipulation prescribed consistent instructions. It is often the case that a child who is non-compliant receives more instructions than does a child who is compliant. Therefore as the study progressed and during conditions designed to decrease non-compliance, there were fewer instances of non-compliance and thus fewer instances that necessitated a teacher issuing instructions to the subject.

(Slide 3) Contingent teacher attention was variable within all conditions but was considerably higher during the manipulations than during baselines. Therefore, not only were the contingencies of teacher attention applied more systematically but also total teacher attention increased during

manipulations. However, total attention remained about the same for all manipulation comparisons.

It was concluded that the four-component manipulation effectively reduced the non-compliance of a preschool boy. Separate analyses of the components demonstrated that the use of contingent teacher attention for compliance without support of any other procedure was not sufficient for maintaining this low level of non-compliance, but contingent teacher attention plus consisten instructions was, and required less teacher time than the four-component procedure. However, it is not known whether this combination would have been sufficient for the initial decrease in the behavior at the onset of the study.

The separate analyses of the components of the package enabled the teachers to know which of their behavioral efforts were probably most effective and therefore which they should concentrate upon in the process of developing instructional control in the classroom setting.

Whether the same effects would have been achieved if the components of the procedure had been instituted one at a time rather than as a total package cannot be known from the results of this study. This tactic was most effective and efficient for this child and for the teachers involved. Instituting the separate components initially and finally the total package might have required a longer time to bring the child under instructional control as a functioning member of a class.

The results of this study indicate that for a severe behavior problem that is essential to bring under control as soon as possible, a package manipulation consisting of several components is an effective method of

bringing the behavior under control. Once the behavior is under control, further analyses showed that some components, separately or in simpler combinations, were sufficient for maintaining this control.

REFERENCES

Medland, Michael B. and Stachnik, Thomas J. Good-behavior game: a replication and systematic analysis. Journal of Applied Behavior Analysis, 1972, 5, 45-51.

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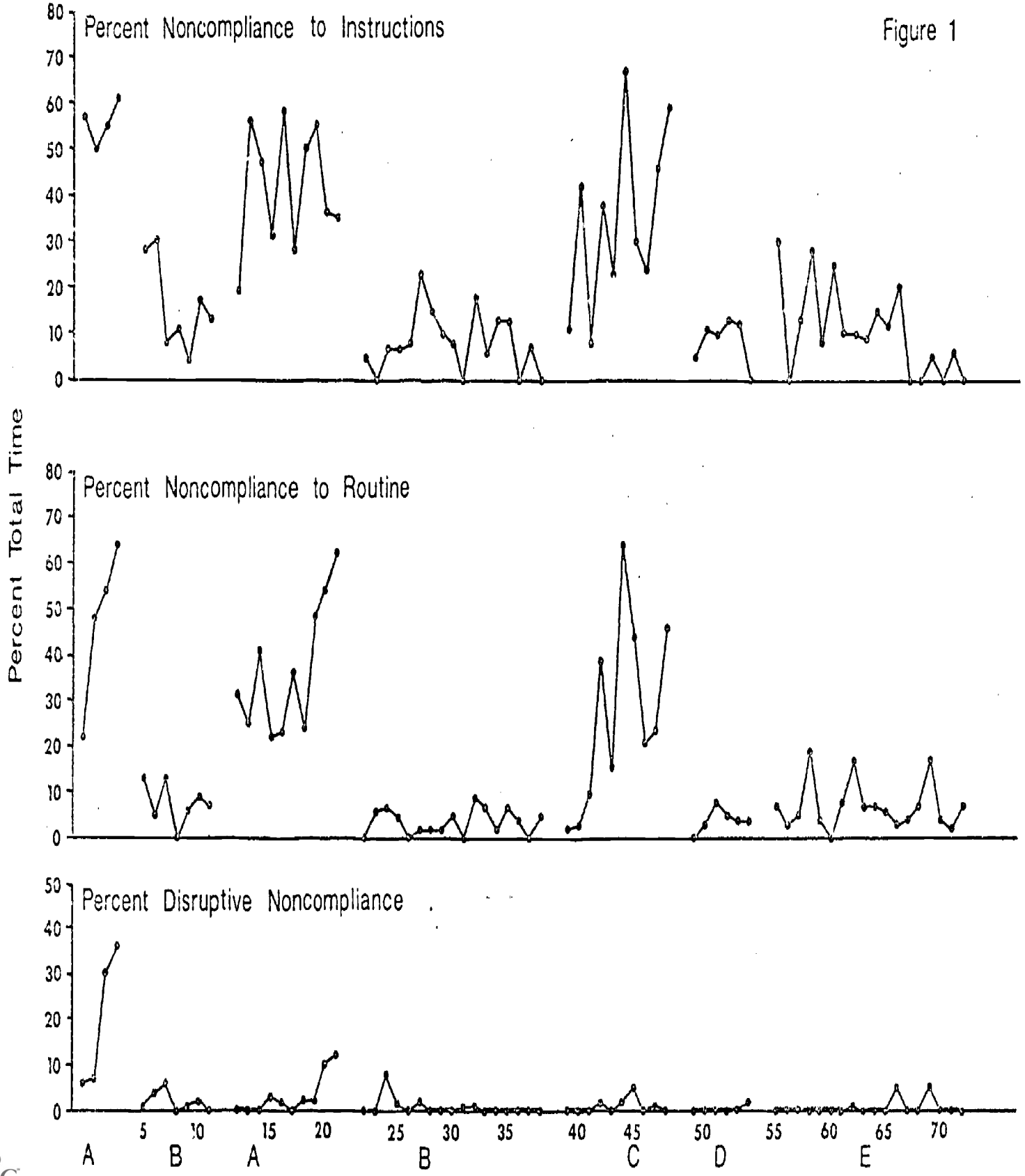

Percent Noncompliance to Instructions
Percent Noncompliance to Routine
Percent Disruptive Noncompliance
Percent Total Time
0
10
20
30
40
50
60
70
80
5
10
15
20
25
30
35
40
45
50
55
60
65
70
A
B
A
B
C
D
E
Sessions and Conditions

Figure 1

Figure 2:

Number of Instructions and Inconsistent Instructions Per Sessions

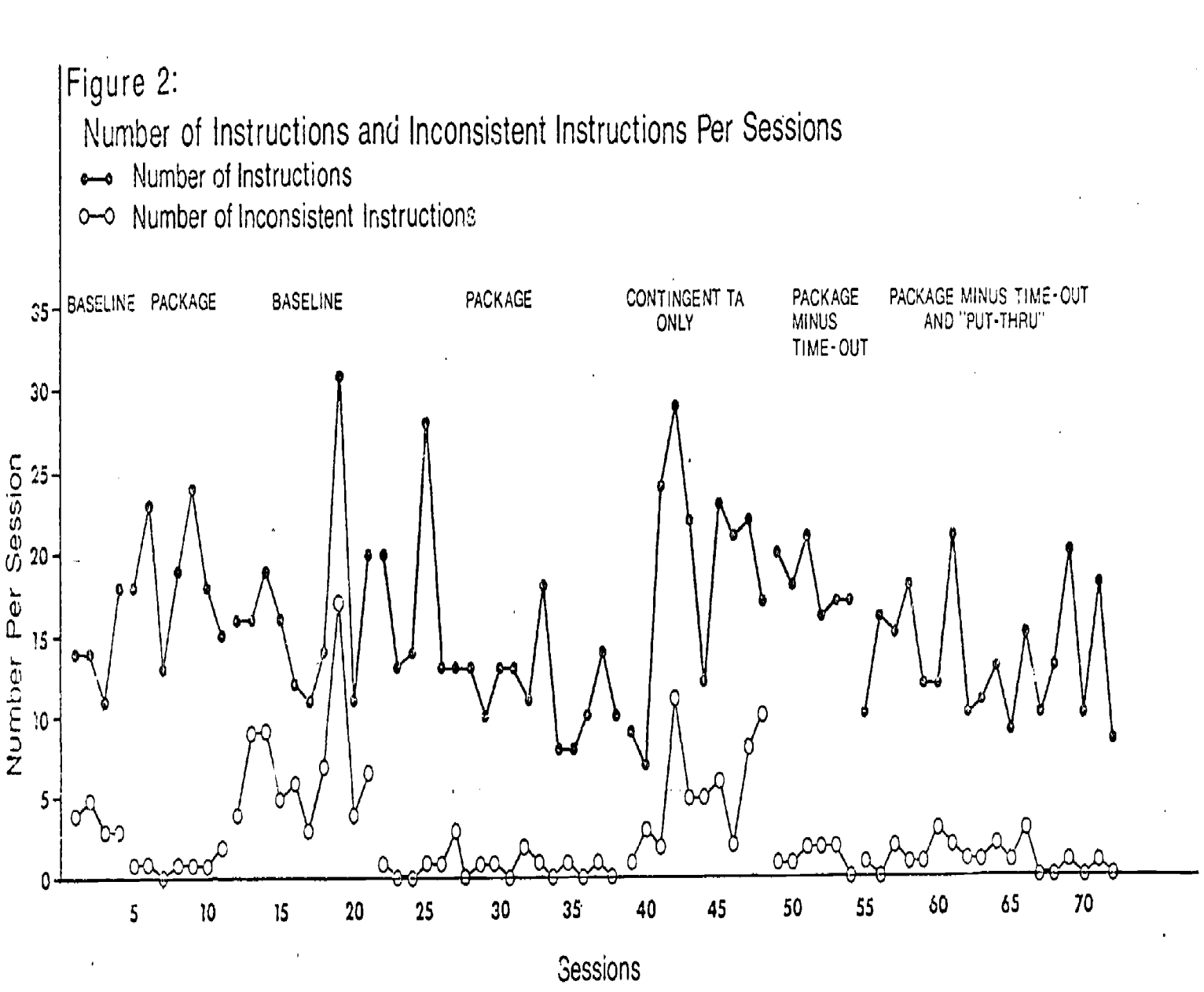
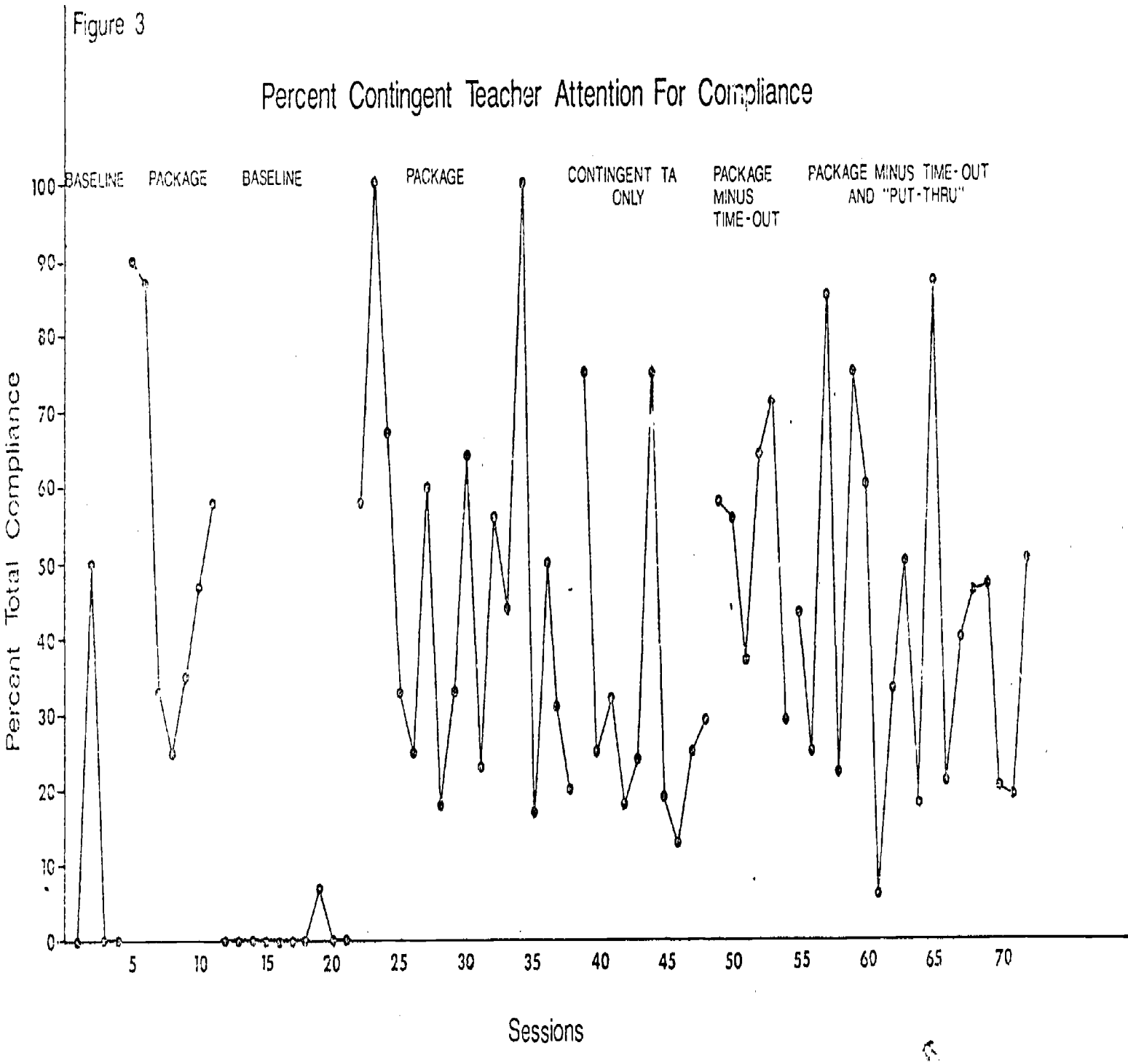


Figure 3


Percent Contingent Teacher Attention For Compliance
BASELINE
PACKAGE
BASELINE
PACKAGE
CONTINGENT TA ONLY
PACKAGE MINUS TIME-OUT
PACKAGE MINUS TIME-OUT AND "PUT-THRU"
Percent Total Compliance
100
90
80
70
60
50
40
30
20
10
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
Sessions