Multiple-Baseline Designs

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An alternative to the withdrawal design is the multiple-baseline design. Multiple-baseline designs could be thought of as a series of A-B designs (Barlow & Hersen, 1984). In this way, multiple-baseline designs have several advantages over withdrawal designs. For example, in a multiple-baseline design, there is not a requirement to remove or withdraw the intervention. Along these lines, there is not a need to return to baseline levels in the future. Thus, multiple-baseline designs are appropriate for investigations of skill acquisitions, as well as of kmotivational problems and the reduction of unwanted behaviors. Multiple-baseline designs are in many ways more versatile than withdrawal designs. There are three types of multiple-baseline designs--across behaviors, participants, and settings.

Multiple-Baseline Design Across Behaviors

The multiple-baseline design across behaviors requires at least two separate behaviors that are independent of one another. In other words, as the intervention is applied to one behavior, the other behavior(s) should remain at the same baseline levels. The critical aspect of this design is that there are multiple behaviors with one participant or group of participants in one setting. As shown in Figure 10.4, two behaviors were measured. When the independent variable was provided to the first behavior, the dependent variable increased. The second behavior also increased once the independent variable was implemented. The experimental control comes from the overlapping data when one behavior is exposed to the independent variable and the other behavior remains stable. If the second behavior improves during baseline, the experimental control is compromised and an extraneous variable is a possible cause for the improved performance.

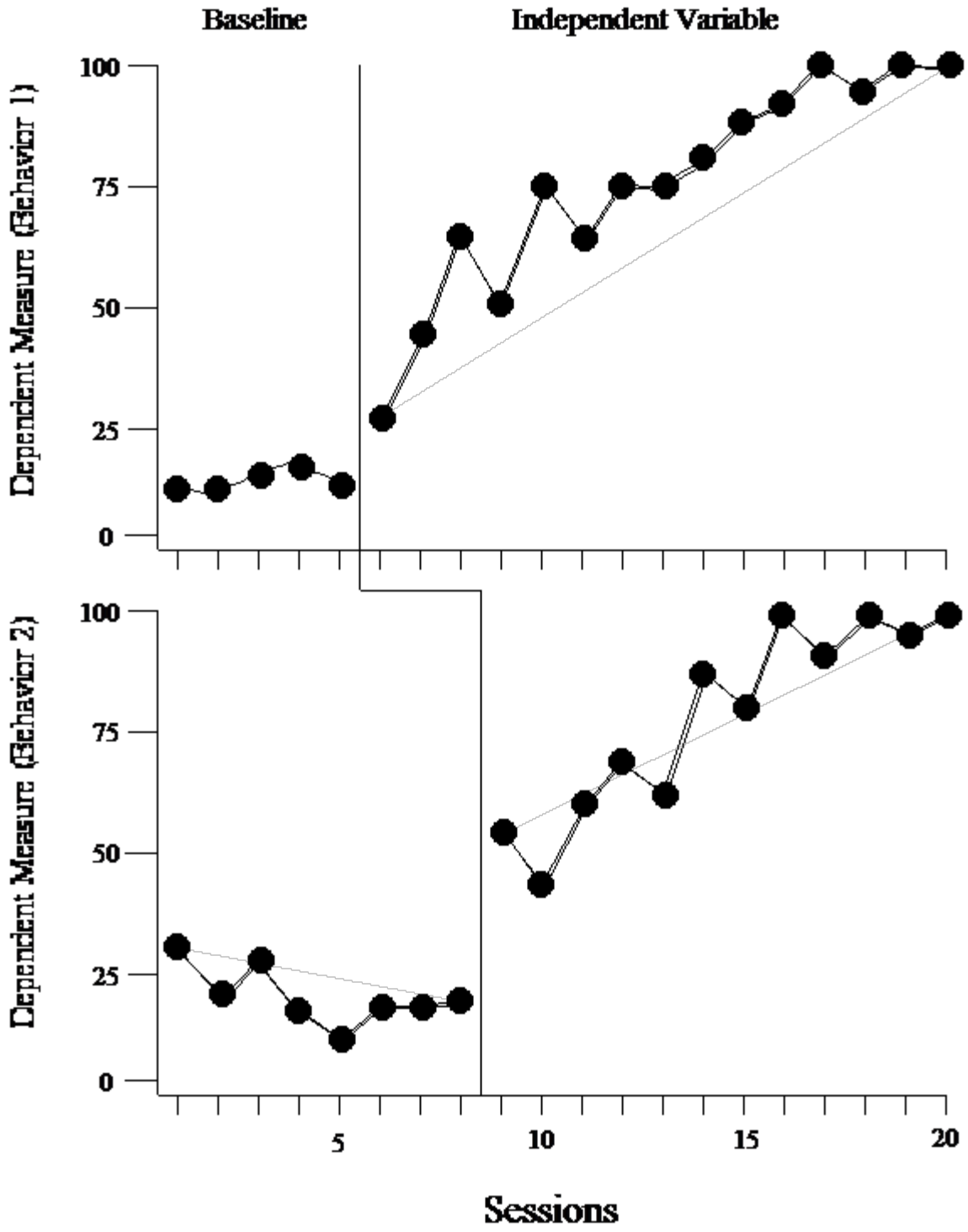

Figure 10.4. **Multiple Baseline Across Behaviors.**

Multiple-Baseline Design Across Participants

The multiple-baseline design across participants is similar to the multiple-baseline design across behaviors in that two or more baselines are required. However, there is a need for two or more participants. The researcher then takes frequent measures of the targeted behavior for each participant during and after baseline. As shown in Figure 10.5, three students were involved in the investigation. Each student received the independent variable in a staggered manner. The students' level of behavior

did not improve until the independent variable was provided. As with the multiple-baseline across behaviors, the control comes from the baseline levels remaining stable while the previous student's reading behavior improves upon the implementation of the independent variable.

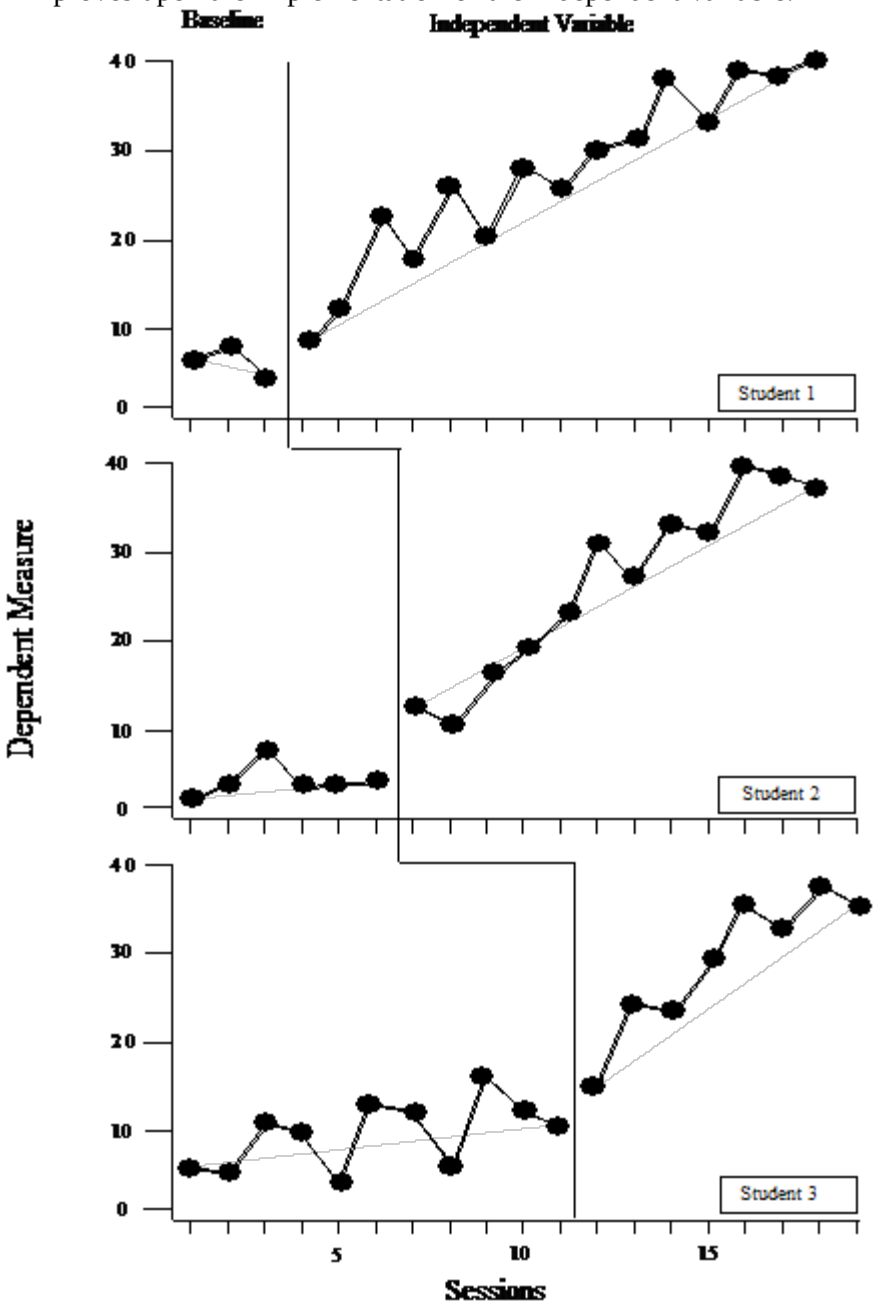

Figure 10.5. Multiple Baseline Across Participants.

Multiple-Baseline Design Across Setting

The multiple-baseline design across settings is similar to the previous two designs except that the researcher selects two or more settings. The researcher then measures the participant's behavior in each of these settings. Baseline measures are taken in each setting and then the independent variable is introduced in only the first setting. The participant's behavior in the second setting is not exposed to the intervention until later. Figure 10.6 shows a participant's performance across three settings. The dependent variable improved in the first setting, but did not improve in the second and third settings until the independent variable was also introduced in these settings

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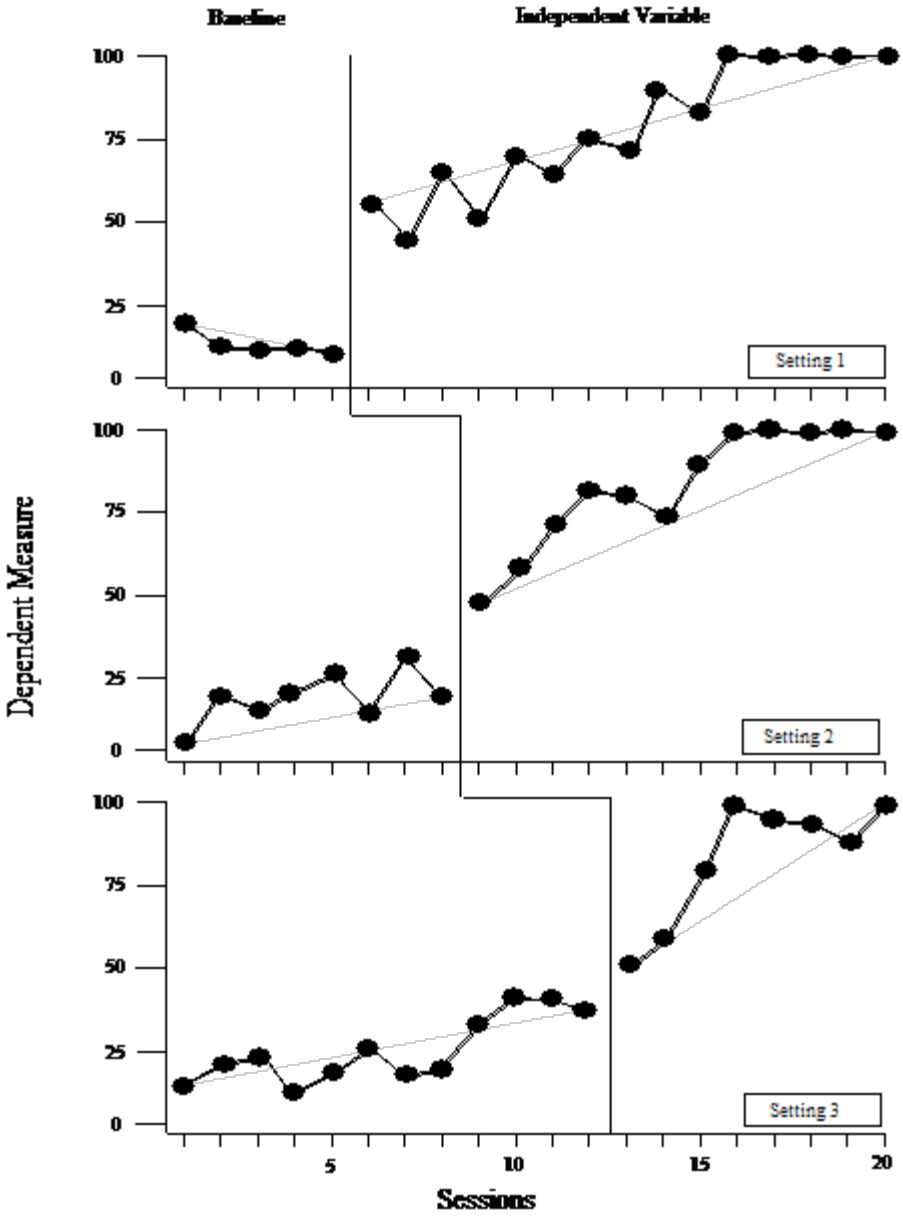

Figure 10.6. Multiple Baseline Across Settings.