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ABSTRACT

A study involving 3 elementary students (ages 8-10) investigated the treatment effects of choice making with academic assignments. Students at risk for emotional disturbance (ED) in a general education setting participated. These were children who exhibited aggressive behaviors and were judged to be achieving below their grade level by their teachers. Interviews with teachers and the students were conducted to identify two higher preference and two lower preference mathematics assignments for each of the three students. A validation assessment was completed to verify that the students engaged in high levels of disruptive behavior. Then, using an ABAB design, and alternating across students, the effects of choice on on-task and disruptive behavior, and academic efficiency was evaluated. First, the effect of student versus teacher choice of lower preference tasks was assessed. Then, the effects of both choice conditions were evaluated for higher preference tasks for one student. Student choice in the lower preference task condition was only associated with a decrease in inappropriate behavior for one student. An increase in engaged behavior or academic efficiency was not observed under low preference choice conditions for any participants. For one student, high preference choice resulted in favorable behavioral changes. (Contains 25 references.) (CR)

Running Head: TASK PREFERENCE AND CHOICE

Identification and Effects of Choice of Higher Versus Lower Preference Assignments For Students at Risk for ED

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Abstract

The treatment effects of choice making with academic assignments was investigated. Students at risk for emotional disturbance (ED) in a general education setting participated. Interviews with teachers and students were conducted to identify two higher preference and two lower preference mathematics assignments for each of three students. A validation assessment was completed to verify that the students engaged in high levels of disruptive behavior. Then, using a ABAB design, and alternating across students, the effects of choice on on-task and disruptive behavior, and academic efficiency was evaluated. First, the effect of student versus teacher choice of lower preference tasks was assessed. Then, the effects of both choice conditions were evaluated for higher preference tasks for one student. Student choice in the lower preference task condition was only associated with a decrease in inappropriate behavior for one student and results were unclear for the other two. An increase in engaged behavior or academic efficiency was not obsered under Low Preference Choice conditions for any participant. For one student, High Preference Choice resulted in favorable behavioral changes. Teachers initially found the intervention to be desireable. Students retained their favorable ratings of the intervention, both prior to and upon its completion. Results and limitations are discussed.

Identification and Effects of Choice of Higher Versus Lower Preference Assignments For Students at Risk for ED

The education of children with Emotional Disturbance (ED) is often interrupted with behavior problems. Not only does the inappropriate behavior interfere with the learning and achievement of these students (Ruhl & Berlinghoff, 1992), but aggression and threats of injury or destruction are responsible for 55% of children with ED being placed in self-contained classrooms designed to accommodate their needs (Peacock Hill Working Group, 1990). Children with ED often are segregated from the general education setting, thereby interfering with potentially beneficial interactions with peers (e.g, Snell, 1990). There is a need to prevent maladaptive behaviors and increase the academic functioning of children with ED so they can be successfully returned to the typical education setting with their peers (Ruhl & Berlinghoff, 1992).

Interventions for students with ED have changed from consequence-based to proactive and individualized approaches in an effort to improve academic and social functioning (Steinberg & Knitzer, 1992). Much work investigating proactive interventions for behavior problems has utilized functional assessment and analysis (e.g., Gaylord-Ross, Weeks, & Lipner, 1980; Iwata, 1987). Here, the function of the behavior is analyzed, hypotheses are derived, and this function of the behavior is addressed by the intervention. The behavior is often found to be maintained by negative reinforcement, that is behavior is reinforced by providing avoidance of or escape from aversive demand situations (Iwata, 1987).

Carr, Newsom, and Binkoff (1980) as well as Nelson and others (Nelson, Johnson, & Marchand-Martella, 1996) indicate that classrooms create a demand situation for students with ED, where academic tasks can act as aversive stimuli. Functional assessments have been used to

develop hypotheses for the maintenance of the negatively reinforced behavior in the classroom (Dunlap & Childs, 1996; Dunlap, Robbins, & Kern, 1994). Based on these assessments, antecedents in the classroom are identified and altered to prevent maladaptive behavior and promote desirable behavior.

Interventions addressing multiple components of the academic environment have successfully reduced the rate of inappropriate behavior exhibited by students with ED by manipulating antecedent events. For example, work by Dunlap and colleagues (Dunlap, Kern, dePerczel, Clarke, Wilson, Childs, White, & Falk, 1993; Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991; Dunlap, White, Vera, Wilson, & Panacek, 1996) has employed functional analysis and assessment to identify elements of academic tasks that may be associated with negative reinforcement of inappropriate behavior for students with severe behavior disorders in self-contained classrooms. Then, multi-component interventions are designed to reduce the aversiveness of classroom interactions. These interventions resulted in decreases in disruptive behavior. One common alteration was the inclusion of choice making within classroom tasks. These findings suggest that choice making opportunities may be associated with reduced inappropriate behavior in students with ED (Dunlap, Robbins, & Kern, 1994; Munk & Repp, 1994).

Choice alone has been associated with decreases in disruptive behavior in several studies in a variety of settings. Parsons, Reid, Reynolds, and Bumgarner (1990) illustrated that the amount of problem behavior decreased when individuals with severe handicaps were given a choice of job task. Dyer, Dunlap, and Winterling (1990) suggested that opportunities for choice-making between academic tasks by individuals with severe autism or developmental delays were

responsible for decreased disruptive behavior. Dunlap, dePerczel, Clarke, Wilson, Wright, White, and Gomez (1994) demonstrated that choice of academic tasks for two students with ED in a self-contained classroom was associated with lower levels of disruptive behavior. More recently, Powell and Nelson's (1997) investigation of the effects of task choice by a student with ADHD indicate that choice was associated with a decrease in undesirable behavior within a general education setting. The opportunity for choice-making has been associated with decreases in inappropriate behavior in a number of settings with a variety of individuals.

There is support for a corresponding increase in on-task responding when individuals with handicaps are given choices of tasks. For example, Parsons and others (1990) showed that choice-making opportunities were associated with increased on-task responding for individuals with severe handicaps. Likewise, Dunlap and colleagues (1991; 1993; 1996) indicated that task engagement increased during functional analysis of choice and during the multi-component interventions for individuals with ED in a self-contained classroom. Also, Dunlap (et al., 1994) indicates that phases with a choice of academic tasks correspond to increases in on-task responding for the same population.

There is, however, some evidence that choice may not be associated with increases in appropriate responding. For example, Dyer and colleagues (1990) show that individuals with autism did not increase job productivity when choice opportunities were provided. Also, idiosyncratic results were found by Cole and others (Cole, Davenport, Bambara, & Ager, 1997) when evaluating the relative effects of task choice on task engagement and productivity. These authors indicated that task choice added no benefit over simple assignment of a preferred task for engagement or productivity. Though it may be related to decreased problem behavior, there are

inconsistent findings for choice making as a means to increase the productivity of individuals with severe handicaps. The results reported by Dunlap and others (1991; 1993; 1994; 1996), however, favors the relationship of choice-making with increases in on-task responding.

The question of choice as related to increases in appropriate responding and decreases in inappropriate responding may be the relative role of preference of tasks (Dunlap, et al., 1994). That is, choice (1) may be responsible for allowing an individual access to a preferred activity thereby decreasing task aversiveness and inappropriate responding or (2) may be functioning in isolation of task preference to allow an individual control and thereby reduce the relative aversiveness of any task. Dunlap and others (1994) provided some evidence of the latter, that is choice reducing task aversiveness. Observed increases in appropriate responding and decreases in inappropriate responding in an individual with ED in a self-contained classroom were associated with a condition controlled for task preference. A no-choice condition yoked to a previous choice condition attempted to tease out the effects of choice-making versus preference. During this no-choice, high preference task phase, the inappropriate and appropriate behaviors both returned to levels comparable to a previous no-choice condition. This finding indicates that relative task preference was not responsible for favorable behavior changes. Choice-making to reduce aversiveness of academic tasks was supported as being associated with desirable changes in behavior.

Likewise, Vaughn and Horner (1997) provide some limited support for choice of low preference tasks being responsible for decreases in inappropriate behavior exhibited by individuals with moderate to severe handicaps. This investigation used functional assessment, composed of interviews and direct observations, to determine relative task preference. Direct

observations during assignment of higher or lower preference tasks verified the information from the interviews (i.e., lower preference tasks occasioned higher rates of inappropriate behavior). A validation assessment, where participants were allowed to choose between those tasks deemed to be of higher and lower preference, was conducted to verify that students would choose the higher preference tasks and these tasks would be associated with lower rates of inappropriate behavior. Choice of preferred task showed no differences in inappropriate behavior, compared to a condition of teacher assignment of a preferred task. Student choice of lower preference tasks was associated with somewhat decreased inappropriate behavior, compared to teacher assignment of the same tasks. These findings suggest that the effect of choice-making may not be different than assignment of *preferred* activities, but may be effective in reducing problem behaviors during *lower* preference tasks. There was no consideration of appropriate responding in this investigation.

Finally, Cole and others (1997) attempted to isolate the effects of choice from preference for students with severe disabilities. Preference for tasks was assessed using a student selection technique, and the effects of choice were compared with higher and lower preference tasks. Though results did not clearly support choice as associated with increased task engagement, these tasks were not academic in nature, as with the Dunlap investigations (1991; 1993; 1994; 1996).

Overall, there are mixed findings about the role of choice-making in regards to inappropriate and engaged behavior as well as task productivity and accuracy. Because choice-making opportunities for academic tasks appears to be associated with decreased inappropriate behavior and increased appropriate responding for children with ED in self-contained classrooms

(Dunlap, et al., 1991; 1993; 1994; 1996), investigation of the effects of academic task choice for students with ED in a general education classroom would seem important. Also, because there is conflicting evidence regarding the mechanisms behind choice interventions, isolating and evaluating these effects in the general education context would be essential to establish the utility of choice as a proactive intervention for students with ED.

The purpose of this study was to extend the work of Dunlap et al. (1994), Powell and Nelson (1997), as well as Vaughn and Horner (1997) with academic tasks for students at risk for ED within a general education setting. The effects of academic task choice alone, for both high and low preference tasks, on disruptive behavior, task engagement, and academic efficiency was assessed. After a number of academic assignments were identified and ranked in order of preference by students, the effects of choice were isolated from the effects of task preference. It was hypothesized that, when the student, instead of the teacher, is allowed to choose a lower preference task, disruptive behavior will decrease, and this decrease will be accompanied by an increase in task engagement, and academic efficiency. When students are provided opportunities to choose from higher preference tasks, instead of the tasks being assigned by teachers, levels of behavior should be comparable to baseline. That is, for students at risk for ED, choice will act to decrease the aversiveness of academic tasks (e.g., Dunlap, et al., 1994). Finally, it was hypothesized that both teachers and students will find this intervention appealing and effective.

Method

Participants and Setting

Three elementary students, two African American males, Pat and Terry, (ages 9 and 8) in one grade three general education classroom, and one Caucasian boy, Al, (age 10) in a grade four

general education classroom within an elementary school in eastern Pennsylvania. The three students were identified as being at risk for emotional disturbance (ED), having exhibited aggressive behaviors, and were judged to be achieving below a level their grade level by their teachers. All three students were referred to their Instructional Support Team for behavioral difficulties. None of the participants were receiving psychotropic medication during the course of the study. Teachers nominated these participants as displaying low rates of task engagement and high rates of inappropriate behavior compared to their peers. Academic efficiency of these students, the percent of assigned problems correctly completed, was below their peers as judged by the teacher.

This study took place during a classroom mathematics seat work session (around 10 minutes each). Each session consisted of written seat work assignments in the regular classroom mathematics curriculum.

Validation Assessment

A descriptive analysis was performed to determine if task aversiveness is related to problematic behavior for the target students. The first part of a Problem Identification Interview (Kratochwill & Bergan, 1990; see Appendix A) was completed by the primary investigator with the classroom teacher to verify that problem behavior was in fact related to avoidance of or escape from seat work. According to his teacher, Pat would be asked to complete an assignment, and would often throw his work down and get out of his seat, or 'shut down' (stop working and refuse to talk). Terry would be likely to call out to his peers, get up out of his seat, become aggressive toward peers, or throw items such as pencils, during seat work time. Al would also be likely to talk to his peers, or yell across the room during independent work time. In each

classroom, if the behavior escalated, the student would be removed from the classroom. All three students were judged by the teacher and primary investigator to be avoiding their work because of the temporary hiatus in work during their disruptive behavior and their ultimate removal from the classroom with severe behavior.

Also, teacher and parent ratings of Aggressive Behavior on the Teacher Report Form and Child Behavior Checklist (TRF; CBCL; Achenbach, 1991), respectively, were within the borderline (T-Score of 65-70) or clinical (T-Score of 70 or greater) range for each participant (See Table 1). Pat's teacher rated his aggression at the Borderline Range (T Score 67) and his mother rated it within the Clinical Range (T Score 72). Terry's teacher rated his aggression within the Clinical Range (T Score 87) and his mother rated it just below the Borderline Range (T Score 64). Finally, both Al's teacher and mother rated his aggression just around the Borderline Range (T Scores 63 and 65, respectively).

Three observations each for each participant were conducted by the primary investigator to verify that the students engaged in high rates of inappropriate behavior and low rates of on-task behavior. Each observation was conducted in the child's regular classroom during 10 minues of seatwork. Disruptive behavior was defined and recorded with the use of a standard observation system, the Behavioral Observation of Students in Schools (BOSS; Shapiro, 1996). Each of the three categories of inappropriate behavior, off-task motor, off-task passive, and off-task verbal were recorded.

First, off-task motor was defined as any activity that is not a part of the academic task which the student is to be working on. Examples included any out-of-seat behavior, physical contact with another student not related to the academic task at hand, flipping book pages,

manipulating objects, turning around in one's seat, fidgeting (for at least 3 consecutive seconds), or drawing. Nonexamples included passing a paper to another student, as directed by the teacher, or coloring as a part of an assignment's requirements.

Next, off-task verbal was defined as making any audible verbalizations or noises not related to the assignment, or that are not allowed by the classroom rules. Examples included making any sound (such as whistling, humming, or burping), talking to a classmate about issues other than the assignment, talking when prohibited by classroom rules, and calling out. Non-examples included talking about the assignment with a classmate when permitted or calling out an answer when permitted.

Finally, off-task passive was defined as when a student is passively not attending to the assignment for a time of at least three consecutive seconds. Examples included waiting for the teacher to assign the next task, looking out the window or around the room, listening to other students talk about topics other than the assignment. Non-examples included quietly attending to one's work or listening to a teacher.

Each off-task category was recorded using partial interval sampling, as indicated by the BOSS (Shapiro, 1996). To maintain consistency with the Dunlap (1994) study, the intervals were 15 seconds each and any instance of the behavior occurring during that time was marked by the observers. If another behavior in a category occurred during the same interval, only one instance was recorded.

The results of the initial observations are presented in Table 1. Pat, over the three sessions, displayed disruptive behavior during 40%, 54%, and 74% of the intervals. Terry, again over the three intervals of class work time, displayed disruptive behavior for 38%, 21%, and 62%

of the intervals. Finally, Al displayed disruptive behavior over 60%, 44%, and 74% of the three intervals of assessment.

Dependent Measures

On-Task and Off-Task Behavior, Measurement and Interobserver Agreement

Task engagement was considered by Dunlap (1994) but not was not by Vaughn and Horner (1997). For the purposes of this investigation, task engagement was also evaluated with the BOSS (Shapiro, 1996). The two types of on-task behavior observed were Active Engaged Time (AET) and Passive Engaged Time (PET).

AET was scored when the target student is actively working on or attending to seat work. Examples included writing, raising a hand, or talking to a peer or teacher about the assignment (when allowed). Non-examples included talking to a neighbor about a topic other than the assignment, flipping pages of a book, engaging in any other form of off-task behavior.

PET was defined as when a student is more passively paying attention to an assignment. Examples included listening to the teacher or a peer regarding the assignment or reading or looking at the seat work assignment. Non-examples included looking around the classroom or reading materials not related to the assignment.

Engaged time was recorded using a momentary time sampling procedure, as indicated by the BOSS (Shapiro, 1996). As with Dunlap's (1994) investigation, intervals were 15 seconds, and engaged behavior was recorded at the start of each interval.

Inappropriate behavior, that is OFT-M, OFT-V, and OFT-P, were recorded in the same manner as described in the previous section (Functional Assessment).

Data were collected by graduate students in school psychology who were blind to the

purpose and hypotheses of the study. As indicated by the BOSS (Shapiro, 1996) a momentary time sampling with 15 second intervals was used for On-Task behaviors. The percent of intervals with AET and PET behavior were determined by adding the number of intervals with each behavior and dividing by the total number of intervals observed, multiplied by 100%.

A partial interval recording method with the same length intervals was employed to measure inappropriate behavior. As with the measurement of disruptive behavior during the functional assessment, the BOSS (Shapiro, 1996) was employed. Any instance of an inappropriate behavior within an interval was recorded. The occurrence of either OFT-M or OFT-V was considered disruptive behavior within an interval. Percentage of intervals with disruptive behavior was computed for each participant by adding the number of intervals with disruptive behavior and dividing this sum by the total number of intervals, then multiplying by 100%.

On 30-40% of the sessions, equally distributed across participants and phases, interobserver agreement was calculated. For these sessions, an independent observer also blind to the purpose of the study, collected data, and agreement was calculated using a point by point method for each interval. Total agreement was calculated by adding the number of intervals where both observers agree on occurrence and nonoccurrence of each target behavior, divided by the total number of intervals, and multiplied by 100%. Occurrence agreement was calculated by adding the number of intervals where both observers indicated the occurrence of behavior and dividing this sum by the total number of intervals less the number of intervals where both observers agreed on nonoccurrence, multiplied by 100%. Nonoccurrence agreement was calculated by adding the number of intervals where both observers indicated the nonoccurrence

of a behavior divided by the total number of intervals minus the intervals where both agreed on occurrence, multiplied by 100%. Finally, Kappa coefficients were computed to consider agreements beyond chance levels.

Academic efficiency. Academic efficiency, that is accuracy and completion of seat work assignments, was calculated by determining the percent of assigned items completed correctly. Percentage correct problems on the mathematics seatwork assignments were the number of correctly completed problems divided by the total number of problems assigned multiplied by 100%.

Teacher Ratings of Acceptability. Because consumer satisfaction is essential to the success of an intervention (Erchul & Martens, 1997), ratings of acceptability were conducted. The Intervention Rating Profile (IRP; Martens & Witt, 1982; as cited by Kratochwill & Bergan, 1990; see Appendix B) was administered to assess the teachers' attitude toward and satisfaction with this intervention. Profiles were administered two times during the intervention, once prior to its implementation and once at the end of the project. This is a 15 question instrument in a Likert-type format from 1 (Strongly Disagree) to 6 (Strongly Agree).

Student Ratings of Acceptability. Student ratings of acceptability were be completed. The Children's Intervention Rating Profile (CIRP; Elliot, 1986; as cited by Kratochwill & Bergan, 1990; see Appendix C) was administered two times on the same schedule as the IRP. This is a 6 point Likert-type scale from 1 (Strongly Agree) to 6 (Strongly Disagree). Items were read to the partipicants and their verbal responses recorded by the primary investigator. Items 1, 5, 6, and 7 (The method used to deal with this behavior problem was fair; The method used by this teacher would be a good one to use with other children; I like the method used for the

problem behavior; and I think that the method used for this problem would help a child do better in school) were reverse-scored so that higher ratings on each question consistently indicated higher levels of acceptability.

Procedural Integrity Data. In an effort to ensure the intended implementation of each part of the study, procedural integrity data was collected. Treatment integrity was assessed by the primary investigator using a checklist consisting of the steps for each phase of the study (Appendix D). Treatment checks were conducted for 25% of sessions, and balanced across conditions.

Procedures

General Procedures. Adapting from the work of Vaughn and Horner (1997), the first phase (Task Nomination) consisted of structured interviews with both the teacher and student to identify specific tasks that are related to higher rates of inappropriate behavior and lower engagement, productivity, and accuracy (i.e Low Preference tasks) and those with lower rates of off-task behaviors (i.e., High Preference). In the final phase (Choice Assessment), the effects of choice between two High or two Low Preference tasks on disruptive as well as academic behavior were assessed and compared to teacher choice of the same tasks.

Task Nomination. To replicate and extend the work by Vaughn and Horner (1997), the teachers were asked to list four commonly assigned mathematics tasks that would be given to the class for completion during independent seat work (e.g., completing the end of the chapter word problems or a worksheet of similar number problems). The two assignments that were considered to be of higher preference were the ones rated, by the teacher, as unlikely to occasion problem behavior and rated, by the student, as likely to be a favorite. The difficulty of each task

was held constant by the teacher and primary investigator. That is, if the child has difficulty reading, problems were not be included in the 'disliked' assignment list because they would be more difficult to complete. In each classroom, the type of problem presented in each format was identical. For example, in Pat and Terry's classroom, if the class was working on 5 times tables, any task presented to the child would consist solely of one digit by one digit (5) multiplication problems.

Teachers were asked to derive a list of two types of assignments he or she feels the student dislikes very much and two the student appears to like very much. Pat's teacher indicated that he enjoyed worksheets and color coded worksheets (i.e., where each color corresponds to a number and the students fill in the problem based on the colors). He was noted to dislike problems out of the book and problems presented on paper cut-outs to be copied. Terry's teacher, in the same classroom, stated that he enjoyed the worksheets and cut-out problems, but disliked color-coded worksheets and problems from the book. Finally, Al's teacher stated that within his classroom, Al liked to work with a peer, or copy and complete problems off of flashcards, whereas he disliked computer-generated worksheets and a series of problems on laminated math cards.

Likewise, there were student interviews prior to each phase change during which each child was shown the list of assignments compiled by the teacher and an example of each. Each child was asked to note which of the tasks he or she likes very much (High Preference) and those which are greatly disliked (Low Preference). Student preferences were commensurate with teacher nominations. Because preferences may change over time (e.g., Cole, et al., 1997), brief preference assessments were conducted prior to each change in phase. However, preferences of

the participants did not change at any point during the study, based on these interviews.

Choice Assessment

In previous investigations, the effects of choice can not be isolated when task preference is not controlled. Therefore, this segment attempted to control task preference to illustrate the effects of choice alone. For each part of this phase, an ABAB, alternated across participants, design was employed within both the high and Low Preference task conditions. That is, Pat and Al underwent an ABAB design, whereas Terry received each condition in BABA order, and all students were to receive each choice condition in this way within the High and Low Preference task segments. Each A phase provided student choice of task, while each B phase consisted of teacher choice of task. That is, in the first ABAB, the A phase consisted of providing students two Low Preference tasks from which to chose and during the B phase, the teacher assigned one of two Low Preference tasks. The second ABAB phase did the same with High Preference tasks.

The dependent measures for each of these phases consisted of the participants' disruptive behavior, on-task behavior, and academic efficiency. Each segment of the reversal consisted of at least two days of seatwork assignments, until a data-based decision utilizing the direct observation of disruptive behavior was made. Also, each teacher and student were asked to complete the IRP and CIRP, respectively, at the start of the first phase and once after the final week of the intervention.

Choice assessment of lower preference tasks. This first phase compared the effects of student versus teacher choice of task for those assignments indicated to be lower preference. During both A phases, participants were offered a choice between two Low Preference tasks.

The teacher provided a menu similar to that presented in Appendix E with a choice of two Low Preference tasks. Each student selected and completed one of the tasks. For each B phase, the participants were shown a menu of two lower preference tasks and the teacher assigned one of these two assignments and asked the student to complete it.

The two tasks for each condition (i.e., Low or High Preference) were chosen by the primary investigator during No Choice phases so that one task was not always presented throughout the entire phase. For example, for Low Preference, No Choice, one type of task would be presented for one half of the sessions, and the second type of task presented for the alternate sessions, all in counter-balanced order. The teacher was prompted for each session by the primary investigator. Obviously, for Choice phases, the task completed was contingent upon student choice.

Choice assessment of higher preference tasks. With the same ABAB and menu format, the effects of choice with higher preference tasks was assessed. In the 1st and 2nd A phases, the students were first offered a menu with two High Preference tasks from which to choose. Each child was to complete the assignment. Again, each A phase was followed by a teacher assigned phase (phase B), where the teacher assigned a task designated by the primary investigator and instructed the child to complete the assignment. Again, tasks presented during the No Choice condition were counterbalanced to prevent consistent presentation of the same type of task across all sessions.

Results

Reliability

Interobserver agreement and Kappa coefficients for each behavioral category are

presented in Table 2. The mean percentage of total Occurrence Agreement across categories was 65%, with a range from 0 to 100%. The mean total Non-occurrence Agreement across each of the categories was 86%, with a range from 31-100%. Finally, the Total Agreement, across all Categories was a mean of 90, with a range from 67-100%.

Procedural Integrity

Procedural integrity data were collected during 16 of the sessions (31%). Each teacher completed each step as indicated on the procedural integrity checklist with 100% accuracy during each check. Therefore, the overall procedural integrity was 100%.

Treatment Effects on Behavior

Disruptive behavior, On-Task behavior, and Academic Efficiency of the participants were evaluated through visual inspection of data. While only one participant, Terry, continued to participate through most of the phases, all of the data from each participant is presented.

Disruptive Behavior. The percent of intervals with Disruptive Behavior (OFT-M or OFT-V) for each participant within each phase are displayed in Figure 1. For the first phase of the study, the comparison of Choice versus No Choice for Low Preference Tasks, there is little difference between choice conditions for any participant. Pat displayed somewhat lower means of disruptive behavior during the Choice phases. For Terry, in the High Preference condition, offering choice was related to lowered rates of disruptive behavior, but the effects were not as clear during the Low Preference condition. Likewise, for Al, results were inconsistent. Overall, the rates of disruptive behavior exhibited by each participant were variable and inconsistent.

Specifically, Pat's disruptive behavior during his Low Preference Task Condition within his first Choice condition averaged 24% (Range 11-44%) and was on a downward trend. During

his initial No Choice Phase, his disruptive behavior averaged 26% (Range 4-70%), which was only slightly above that during the Choice condition. Two data points (29%) did not overlap during the two phases, and only one (14%) was above the initial Choice condition data. For the second Choice phase, Pat's Disruptive behavior averaged 11% (Range 0-30%), and was slightly below the mean of the previous No Choice condition, and was on a decreasing trend. Two data points (29%) did not overlap with the pervious phase and were below the level of the previous phase. Finally, in the last No Choice phase, Pat's disruptive behavior increased to a mean of 28% (Range 4-52%) of the intervals, which was at a level above the previous phase (one data point; 20% of the data), and was on an increasing trend. It should be noted that during the first session of this final No Choice condition, Pat was passively off task for almost the entire session, having completely refused to do the assignment.

Terry displayed disruptive behavior on an average of 33% (Range 24-47%) of the intervals during his initial No Choice phase in the Low Preference Condition. During the first Choice phase, Terry's average percent of intervals with disruptive behavior was 32% (Range 27-41) and was only slightly below that of the previous phase. All data points overlapped. In Terry's second No Choice phase, the mean percent of intervals with disruptive behavior fell to 29% (Range 9-41%), but only one data point (17%) did not overlap. In Terry's final Low Preference Phase, a return to Choice, his average percentage of intervals with disruptive behavior fell to 26% (Range 9-38%), and all data points overlapped. Next, Terry received a No Choice condition with High Preference tasks, where his disruptive behavior averaged 18% (Range 15-22%) of intervals, which overlapped with the previous phase. However, during the initial Choice phase of the High Preference Task condition, Terry's disruptive behavior fell to 0% of intervals,

well below any other phases with no overlapping data. In the final No Choice condition, Terry's disruptive behavior once again escalated to an average of 46% (Range 25-72%) of intervals, where 100% of the data did not overlap with the previous phase.

Finally, during his initial Low Preference, Choice condition, Al averaged 41% (Range 0-73%) of intervals with disruptive behavior. During the initial No Choice condition, his disruptive behavior actually decreased to an average of 23% (Range 16-36%) of the intervals, and 100% overlapping data points. During the second Choice phase, Al's disruptuve behavior remained the same (M 23%; Range 13-33%), and finally decreased slightly during the last No Choice, Low Preference Phase, to a mean of 20% (Range 4-33%) of the intervals, again with all data points overlapping. During the one session of High Preference, Choice, Al's disruptive behavior was at a level (23% of the intervals) which was at a level above the previous phase.

On-Task Behavior. The percentage of intervals with On-Task behavior for each participant and across all conditions is presented in Figure 2. Results were in conjunction with the findings for Disruptive behavior, such that there was little distinction between Choice and No Choice phases for any of the participants.

Pat was Actively Engaged an average of 41% (Range 22-52%) and Passively Engaged for a mean of 48% (Range 32-65%) of intervals during the first Choice phase. However, his average Active engaged time rose to 56% (Range 48-78%) of intervals, where one data point (14%) did not overlap with the previous phase. For Passive Engaged time, Pat's mean intervals fell to 27% (Range 9-48%), and 29% of the data points did not overlap. During the second Choice phase, Pat's average Active Engaged time fell to 47% (Range 39-61%) of intervals, which was 29% non-overlapping data points. His passive engaged time also fell to an average of 20% (Range 0-

35%) of intervals. Finally, in the last No Choice condition, Pat's average percent of intervals with active engagement was 30% (Range 17-39%), whereas his passive engaged time averaged 9% (Range 0-9%) of intervals, both of which were somewhat below that of the previous phase, but only 20% of data points did not overlap in the active engaged time, and all overlapped in the passive engaged time.

Terry, on the other hand, showed an average of 42% (Range 35-52%) of intervals with active engaged time and 34% (Range 27-41%) of intervals with passive engaged time during his initial No Choice, Low Preference phase. During the next Choice phase, Terry's active engaged time increased to an average of 43% (Range 27-76%) of intervals, but his passive engaged time decreased to 19% (Range 6-27%) of intervals. Fourteen percent of the data points did not overlap between the two phases of active engaged time, and 29% did not overlap of passive engaged time. In the next No Choice condition, Terry exhibited a greater level of active engagement (M= 60%; Range 18-77%), but a lower level of passive engaged behavior (M= 13%; Range 0-25%). Only 14% of the active engaged data and passive engaged data did not overlap with the previous phase. During the final Choice phase, Terry's active engaged time averaged 60% (Range 51-73%) of intervals, with 0% non-overlapping data points, which was at the same level as the previous phase. His passive engaged time averaged 20% (0-40%) of intervals, with only 14% non-overlapping data points, which was a level slightly above that of the previous phase. In the initial No Choice, High Preference condition, Terry's active engaged behavior decreased to a mean of 54% of intervals (Range 13-78%) and 14% of data points did not overlap. Also, his passive engaged time decreased slightly to 19% (Range 8-39%), which overlapped entirely with the previous phase. In the Choice condition, Terry's active engaged time increased

to an average of 85% (Range 82-97%), with no overlapping data. The amount of passive engaged time exhibited by Terry dropped to 11% (Range 4-18%) of intervals, with 20% of non-overlapping data points. Finally, in the last No Choice condition, Terry's active engaged time dipped to 37% (Range 24-60%) of intervals, with no overlapping data, and his passive engaged time increased to 26% (Range 20-38%) of intervals, again with no overlapping data points.

Finally, Al was initially actively engaged for 35% (Range 18-44%) of intervals during the initial Low Preference Choice condition, and was passively engaged 8% (Range 7-16%). During the first No Choice condition, Al's active engagement increased to 54% (Range 47-62%) of intervals, with no overlapping data. Likewise, the percent of intervals with passive engaged time increased to an average of 19% (Range 18-23%), with no overlapping data. During the second Choice condition, Al's active engagement dropped to an average of 32% (Range 4-50%) of intervals, where 38% did not overlap with the previous phase, and his passive engaged time increased slightly to an average of 20% (Range 4-33%) of intervals, again with 38% of non-overlapping data points. In the last Low Preference condition, in the No Choice phase, Al's active engaged behavior increased to an average of 43% (Range 24%-64%) of the intervals, with only 14% of non-overlapping data points, whereas his passive engaged time remained the same at 20% (Range 4-33%) of intervals, with 0% non-overlapping data points. Al exhibited active and passive engaged behavior 76% and 20% of the intervals during the one session of High Preference, Choice.

Academic Efficiency. In the area of academic efficiency, data were again variable, but Pat showed some treatment effects, where when given a choice, his academic efficiency improved somewhat. Results were less clear, however, for Terry and Al.

Specifically, Pat's initial level of academic efficiency for the first Choice phase was 81% (Range 67-100%), but with a decreasing trend. During the No Choice phase, Pat correctly completed 90% (Range 78-100%) of his work, which was above the level of the previous phase but was a decreasing trend. Fourteen percent of the data points did not overlap. For the second Choice phase, Pat accurately completed 100% of his assignments, a level above the previous phase, though this phase change corresponded with a new skill. All data points overlapped. Finally, in the last No Choice phase, Pat correctly completed only 50% of his work (Range 0-100%), a level below the previous phase. Hre refused to do his work at all on the first session of this phase.

Terry's academic efficiency averaged 56% (Range 33-75%) during his initial No Choice phase. During the Choice phase, Terry correctly completed 71% (Range 50-92%), a level above that of the previous phase, with 14% non-overlapping data points. There was, however, a downward trend. In the second No Choice phase, Terry's efficiency increased to 75% (Range 69-80%), and was increasing. Again, this increase corresponded to the introduction of a new skill. In Terry's final Low Preference Choice condition, he correctly completed 94% (Range 80-100%) of his assignments, a level above the previous phase, with 83% non-overlapping data points. In Terry's first High Preference phase, No Choice, he correctly completed 100% of his work, a level above the previous phase. His efficiency decreased slightly during the next Choice phase, where he averaged 90% of problems correctly completed, but was increasing his performance. There was 100% non-overlapping data points from the previous phase. In the final No Choice phase, Terry averaged 96% (Range 91-100%) correct completion of his work, and exhibited a decreasing trend. Twenty percent of the data did not overlap with the previous phase.

Finally, Al initially correctly completed 47% (Range 30-60%) of his work, with a downward trend, during the first Choice condition. In the No Choice condition, Al correctly completed 53% (Range 10-100%) of his work, which was above the level of the previous phase, and showed an increasing trend. However, there was an introduction of a new skill at the beginning of this phase. In the next Choice phase, Al completed only 21% (Range 0-50%) of his assignments accurately, a level below that of the previous phase, and with a decreasing trend, and 43% non-overlapping data points. In the final No Choice phase, Al correctly completed 36% (Range 0-83%) of his work, above that of the prevoius level, wtih 14% non-overlapping data points and an increasing trend. Again, there was a change of skills in the second session of this phase. Finally, Al completed correctly 25% of his work in the final High Preference, Choice phase, which was below the level of the previous phase.

Treatment Acceptability

Total and mean teacher and student ratings of acceptability of the use of Choice Making as an intervention for disruptive behavior were analyzed before and after intervention implementation. Data are presented in Table 3. On both the IRP and CIRP, higher scores indicate higher levels of acceptability as judged by participants. On the IRP and CIRP, the lowest possible score, indicating low levels of acceptability, are 15 and 7, respectively, whereas the highest possible score, indicating high levels of acceptability, are 90 and 42, respectively.

Teacher. The teachers rated the overall acceptability of the Choice Making intervention as fairly high prior to the intervention. However, both teachers' ratings dropped after implementation, to ones of neutral to moderate acceptability at the completion of the intervention.

Pat and Terry's teacher indicated an acceptability score of 86 at the outset of the intervention, with a mean response of 5.7, and a range of 5 to 6. After the intervention was implemented, this teacher rated the intervention as only moderately acceptable with a score of 54, a mean of 3.6, and a range of 2 to 6. She rated the statement, "I suggest the use of this intervention to other teachers" as a 2 (Disagree).

Al's teacher, on the other hand, initially rated the intervention, prior to implementation, as a 73, with a mean intervention rating of 4.8, and a range of 4 to 5. After implementation, his overall rating dropped to 63, with mean of 4.2, and a range again of 4 to 5. Though his acceptability dropped slightly, this teacher appeared pleased with the intervention before and after its use.

Student. All three participants initially liked the intervention, rating it moderately highly. While Pat's and Terry's scores remained essentially the same overall for pre and post intervention ratings, Al's opinion of the intervention decreased slightly after implementation to moderate levels.

Pat initially rated the intervention with a score of 36 (M= 5.1; Range 4-6), indicating moderately high levels of acceptability. After the intervention, he rated it very similiarly, with a total score of 35 (M = 5; Range 2-6). He did rate the question, 'There are better ways to handle this child's problem than the one described here' with a 2 (Agree). Pat strongly and positively agreed with all other indicators of acceptability.

Terry rated the intervention both before and after its implementation with a total score of 33 (M = 4.7). Prior to the intervention, he did rate two questions with a 2 (Agreement), including 'This child's teacher is too harsh' and 'The method used to deal with the behavior may

cause problems with this child's friends.' However, after implementation, he only rated the latter question as 1 (Strongly Agree), and showed positive indications of acceptability for all other questions. His range after intervention was 1 to 6.

Finally, Al initially rated the intervention with a total score of 34 (M = 4.9; Range 1-6). Again, Al indicated that he Strongly Agreed (Score of 1) to the statement, 'The method used to deal with the behavior may cause problems with this child's friends.' He rated all other indicators highly. After the intervention, however, Al's total acceptability score fell to 27 (M = 3.9; Range 1-6). Not only did he rate the same question low again, he also noted that now he Strongly Agreed (Score of 1) with the following statements: "This child's teacher was too harsh on him," and "There are better ways to handle this child's problem than the one described here." Overall, though, he did seem to have moderate levels of acceptability for the Choice intervention.

Discussion

Results of this study are mixed as far as the differential effects of choice versus preference. For the Low Preference condition, Choice appeared to have slightly positive effects on Pat's disruptive behavior and academic efficiency, though his active academic engagement showed a reverse pattern. Results did show some improvement in disruptive behavior related to offering choices of Low Preference tasks, but these results could not be compared to a High Preference condition. Overall, at least for Low Preference activities, Pat showed some behavioral improvement when he was offered a choice of task.

Terry, the only child where both task preference and choice condition were compared, showed less clear effects. His disruptive behavior (which steadily decreased across phases), engaged time (which was without a discernable pattern), and academic efficiency (which steadily

increased across phases) appeared to be unaffected by choice during the Low Preference condition. As predicted, these variables were slightly improved, with the exception of academic efficiency, during the High Preference condition, and more so when he was given a choice of High preference tasks. There was a positive change in behavior corresponding to Choice phases during the High Preference condition, making interpretation of the effect of choice versus preference difficult to distinguish. For Terry, Choice of High Preference tasks substantially improved both his academic engagement and disruptive behavior, but Choice did not seem to have the same effect for Low Preference activities.

Finally, Al's disruptive behavior, academic engaged time, and academic efficiency showed variable results. Ironically, when Al was given a choice of Low Preference tasks, his academic efficiency *decreased*. The level of his disruptive behavior was high during the single session of High Preference with a Choice of task, which is contradictory to teacher reports, but not surprising given the nature of his variable data.

Overall, it seems that the effects of offering Choices of Low Preference during this investigation tasks were idiosyncratic at best, and ultimately inconsistent.

Results of the current study are in contrast to the previous literature regarding choice making for students with ED. A recent review by Kern and colleagues (1998) indicated that choice-making is effective for decreasing inappropriate and increasing appropriate behavior. This review did note that it is unclear whether *choice* or *preference* were responsible for those changes. However, Dunlap (1994) yoked a No Choice condition to the previous Choice condition to determine that choice-making was related to decreases in inappropriate responding of a child with ADHD. Also, choice-making led to decreases in inappropriate behavior for Low

Preference tasks in the study by Vaughn and Horner (1997) with children with severe disabilities, offering choices of lower preference tasks decreased inappropriate responding. However, there was a low magnitude of effect, as seen in the current study with Pat, that did not strongly support the effects of Choice on desireable behavior change. However, again in the Vaughn and Horner (1997) study, there was no difference in inappropriate responding between phases of Choice and No Choice of High Preference tasks. Neither of these studies considered task completion or engagement. Dunlap and colleagues (1991; 1993; 1994; 1996) did note increases in appropriate behavior for individuals with behavioral problems when choices were offered, but did not compare across high and low preference conditions.

However, the current study did not replicate the findings of Dunlap and others (1994) or Vaughn and Horner (1997) where choice of low preference tasks was related to an improvement in disruptive behavior. While Pat's behavior did show some improvement under these conditions, the findings were not replicated across the other two participants. Unlike the Vaughn and Horner (1997) study, Choice of High Preference tasks *improved* one child's disruptive behavior and academic engagement and efficiency compared to No Choice of High Preference tasks, instead of showing now distinction between choice and no choice conditions during this phase. Further, engaged behavior and academic efficiency were unaffected by choice during Low Preference activities for all participants.

It should be noted that the children in the previous investigations were either diagnosed as ED (e.g., Dunlap et al., 1991; 1994) or suffered from severe disabilities (e.g., Vaughn & Horner, 1997) whereas the students in this study were considered *at-risk* for ED. All three children had been referred to the school's Instructional Support Team for behavioral

interventions, and at the conclusion of the study one student, Terry, was identified as ED by the school's Multidisciplinary Team. Though each of the children displayed high levels of both aggression (as rated by the CBCL and TRF) and disruptive behavior (as recorded during the Functional Assessment), these children may not have been comperable to the children in the previous studies who had already been identified as having ED and therefore would not benefit from task choice in the same manner. The fact that Terry was identified at the conclusion of the study does, however, weaken this argument.

Specifically for Pat, it could be concluded that offering a choice of at least low preference task was related to improvements in behavior. However, during the second Choice and No Choice phases, a change in skill (from three and four digit subtraction to multiplication facts) corresponded with the phase change. Unfortunately, when Pat attempted to complete some of his assignment with this new skill, he was able to do so with 100% accuracy, which may have confounded the results of his academic efficiency data. Also, it should be noted that during session 11, Pat passively refused to complete his work. As noted by his teacher during the Problem Identification Interview, Pat apparently 'shut down' and refused to work, according to teacher and observer report. It could be concluded that Pat was escaping work in a No Choice condition, in much the same manner as he would through disruptive behavior, but was doing so in a passive manner, which was not captured by the observational data of disruptive bhehavior as defined and reported herein. The implications of his refusal to work during a No Choice phase would strengthen the claim that offering choice of Low Preference tasks is related to decreases in undesireable behavior for Pat. This interpretation is in conjunction with the work by Dunlap and colleagues (1994) as well as Vaughn and Horner (1997) that *choice* itself is responsible for

reductions in the aversiveness of a task and subsequent reductions in aberrant behavior. Unfortunately, prior to the initiation of the High Preference conditions, Pat was suspended for over one week of school and upon his return requested to terminate his participation in the study. Therefore, it is impossible to determine whether choice alone was related to Pat's behavior change, as a comparison of choice versus noc choice in a high preference condition could not be completed.

Terry, on the other hand, showed gradually decreasing levels of disruptive behavior over the four phases of Low Preference, making the transition from Low to High Preference difficult to interpret. At least for Terry, choice of Low Preference task was not sufficient to control his disruptive behavior. However, during High Preference tasks, choice did seem to compound the effects of High Preference tasks. That is, both choice *and* preference appeared to be related to decreases in disruptive behavior and increases in engaged time. The levels of disruptive behavior were slightly lower than presented during the Low Preference task conditions for the first two phases, which is consistent with teacher report and with the findings by the Vaughn and Horner (1997) study, but were higher in the last No Choice phase which contradicts previous findings. This finding, too, leads to difficult interpretation. Though Terry did not change his ratings of High and Low Preference tasks throughout the course of the study, his heightened disruptive behavior during the last phase may indicate that these tasks were no longer considered to be of High Preference. If that were the case, then *choice* itself may have been responsible for the decreased disruptive behavior during the High Preference, Choice condition. Unfortunately, during the High Preference conditions, after the second No Choice phase, Terry's teacher was no longer able to participate in the study, and a return to a Choice phase was not possible to

replicate the findings. Finally, it should be noted that with the change of skill in session 8 (the same as with Pat, from three and four digit subtraction to multiplication) was related to an increase in Terry's gradual increase in academic efficiency. This natural occurrence may have confounded the effects of the study as the skills may have been easier for Terry. Overall, it is difficult to determine if Choice alone was responsible for Terry's change in behavior. For Low Preference tasks, at least, choice had nothing to do with his dissruptive, engaged, or academic behavior. The results during the High Preference condition are confusing.

Finally, there was no pattern in any portion of Al's behavior as related to choice, with the exception that there were slight *decreases* in his academic efficiency when choice was offered. Overall, though, his results were too variable to determine a pattern. Next, there were two changes in skill in Al's classroom, though his outcomes were so variable, it is difficult to determine any sort of a pattern, even considering the skill change. Likewise, because of time constraints, such as only being able to hold three sessions per week, and conflict with holidays, field-trips and school-wide assemblies, and a brief suspension of the participant, the High Preference condition was not able to be completed for Al.

Ratings of acceptability of the choice-making intervention by teachers and students were mixed. Initally, teachers found the intervention highly acceptable, but that rating dropped at the end of the study. While Pat and Terry's teacher's rating dropped most significantly, this result could be attributed to her disappointment in the inconsistent effect of choice-making on her students' behavior. Anecdotally, this teacher did note that participating in a study, by its end, was becoming a burden and this tension may have also affected her ratings. Al's teacher, despite the lack of effects on Al's behavior, remained fairly consistent with his ratings of the

intervention. This judgement may have been influenced by the ease with which the intervention itself was implemented.

However, students rated the intervention as moderately high at both the outset and end of the study, with the exception of Al, who noted a slight decrease in satisfaction. Anecdotally, both Pat and Terry enjoyed the being able to make choices, and while Pat had asked to terminate his participation, he did note that he liked receiving choices, but did not like being singled out in his class. Though Al's rating of the intervention decreased slightly at the end, he too did state that he liked receiving choices of tasks, but seemed convinced that the only way to manage behavior such as his was through medication. Overall, the students did seem satisfied with the intervention, despite the fact that it was not consistently related to improved behavior or performance during mathematics seatwork.

Limitations

A number of limitations affected this investigation. First, as with the Vaughn and Horner (1997) study, a functional analysis of the contingency maintaining the behavior, that is escape, was never systematically manipulated through a functional analysis. Only an informal assessment was completed to determine if the behaviors were, in fact, escape-maintained. Likewise, because of time constraints, a validation assessment, as conducted in the Vaughn and Horner (1997) study could not be completed to validate that when the students were assigned high or low preference tasks, their disruptive behavior would, in fact, be affected.

Likewise, only informal assessments of preference, the teacher and student interview, were completed. Though preference assessments were conducted prior to each phase change, the interview method may not have been sufficient to capture changes in preference over time.

However, had the preferences changed, the subsequent change in task for the following phase would have further confounded the results.

Next, an alternating treatments design (Barlow & Hayes, 1979) may have provided a more clear distinction of treatment effects. Choices of High and Low Preferences tasks would be compared simultanously, as would conditions of No Choice. Likewise, given the time constraints, alternating treatments design would have allowed some comparison of High Preference tasks for participants such as Al and Pat. Finally, alternating treatments design would have controlled for the change in task experienced by all three participants, as no single condition would follow the introduction of a new skill.

Peer comparison within the classroom may have been another way to compare the participants' behavior. If random peers were selected during the observational period, classroom factors that may affect all students could be controlled, such as skill changes or setting events. Changes in peer behavior, not related to intervention status, could be compared to changes in participant behavior, to tease out intervention effects.

There were a number of time constraints that served most effectively to limit the results of the study. District and school permission, and finally participant identification delayed the start of the study far beyond the primary investigator's intentions. Also, as already mentioned, a number of assemblies, holidays, field-trips, student suspensions, teacher planning, observer and teacher absenteeism, participant absenteeism, and end of the school year calendar considerations had to be dealt with and dictated the length and course of the phases, and ultimately the study. Shortened phases made data more difficult to interpret. For Pat and Terry, inevitable changes in skill corresponded with changes in phase, thereby potentially confounding the results. Likewise,

as noted, Al was only able to participate three days per week, according to teacher schedule, severely limiting the amount of potential data collected for this student. For Pat and Al, these limitations precluded inclusion of any High Preference condition data, making the differential effects of choice and preference impossible to fully understand. This limitation drastically limited the amount and quality of the data.

Also, there may not have been enough of a distinction between high and low preference tasks. While the teacher interviews and fidings with Terry verified that High Preference tasks were associated with lower rates of disruptive behavior, tasks were very similar in content (i.e., the same skill with different formats). Therefore, there may not have been enough of a distinction between preferences to reliably tease apart the effects of choice versus preference.

The low rates of interobserver agreement also serve as a limitation. Though they occurred during sessions with low rates of occurrence of the behavior in question, some rates of agreement were 0% for some sessions. Overall, the means for Agreement of Occurrence were far below the desired 80% or higher (range 54.6% to 75.8%), thereby making the data presented questionable. If the observers were not reliable, changes in data may have coincided with changes in observer, not necessarily changes in behavior. While initial agreement during training was 80% or higher, unfortunately, retraining of observers was not feasible, based upon observer schedule. This limitation, too, makes the data difficult to interpret.

Finally, as with all single subject research, the results of the intervention may not be generalizable to other students with behavioral difficulties. It cannot be implied that the results of this study will be replicated with other students identified as ED or as at-risk for ED. While it was assumed that these students engaged in disruptive behavior to escape their tasks, results may

differ for students who do or do not meet this discription. A functional assessment should guide the practitioner with treatment selection, and be based on each client's individual needs (e.g., O'Neill, Horner, Albin, Storey, & Sprague, 1990).

In conclusion, the results of this study indicate that offering choice of low preference academic tasks to students at-risk for ED within a regular education classroom *may* slightly decrease disruptive behavior and increase appropriate responding exhibited by these students. However, results are bound to be idiosyncratic. According to these data, it is still unclear if choices of activities or preference for various activities were responsible for behavioral change in these participants. For Terry and Al, neither seemed to be related to reliable change, but choice may be partially responsible for Pat's behavior change. Further research should serve to better address this question and the limitations of this and other literature. Finally, teachers are likely to initially like the intervention, whereas students may like the intervention throughout its implementation.

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Table 1.

Participant Characteristics

Participant	Teacher Report Form: Aggression T Score	Child Behavior Checklist: Aggression T Score	Functional Assessment: Percent Intervals with Disruptive Behavior		
			Session 1	Session 2	Session 3
Pat	67	72	40	54	74
Terry	87	64	38	21	62
Al	63	65	60	44	76

Table 2.
Interobserver Agreement and Kappa Coefficient Means and Ranges For Behavioral Categories

Category	Occurrence Agreement- Mean	Occurrence Agreement- Range	Non-Occurrence Agreement- Mean	Non-Occurrence Agreement- Range	Total Agreement- Mean	Total Agreement- Range
AET	75.8%	30-100%	87.3%	67-100%	91.5%	71-100%
PET	55.8%	18-100%	83.1%	57-100%	86.9%	67-100%
OFT-M	54.6%	0-100%	82.6%	31-100%	87.1%	71-100%
OFT-V	62.8%	0-83%	89.5%	58-98%	91.7%	71-98%
OFT-P	73.5%	33-100%	88.8%	48-100%	91.5%	69-100%
Total	**64.5%**	**0-100%**	**86.3%**	**31-100%**	**89.7%**	**67-100%**

Table 3.
Results of Intervention Rating Profile (IRP) and Children's Intervention Rating Profile (CIRP)

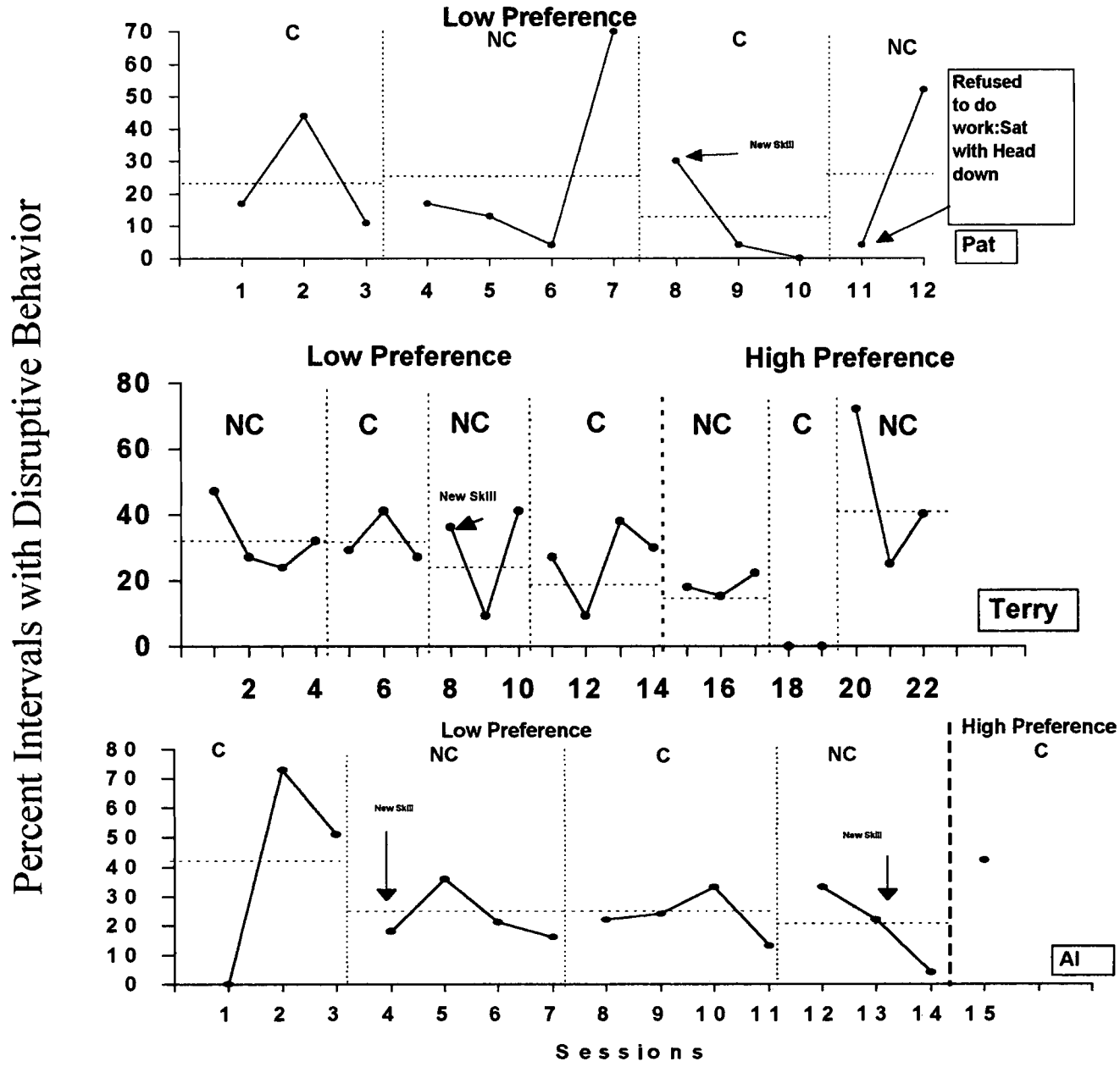
	Pre Intervention		Post Intervention	
	Total	Mean	Total	Mean
IRP: Pat & Terry's Teacher	86	5.7	54	3.6
Al's Teacher	73	4.8	63	4.2
CIRP: Pat	36	5.1	35	5
Terry	33	4.7	33	4.7
Al	34	4.9	27	3.9

Figure 1. Percent of intervals of Disruptive behavior across experimental conditions for Pat, Terry, and Al. C = Choice. NC = No Choice.

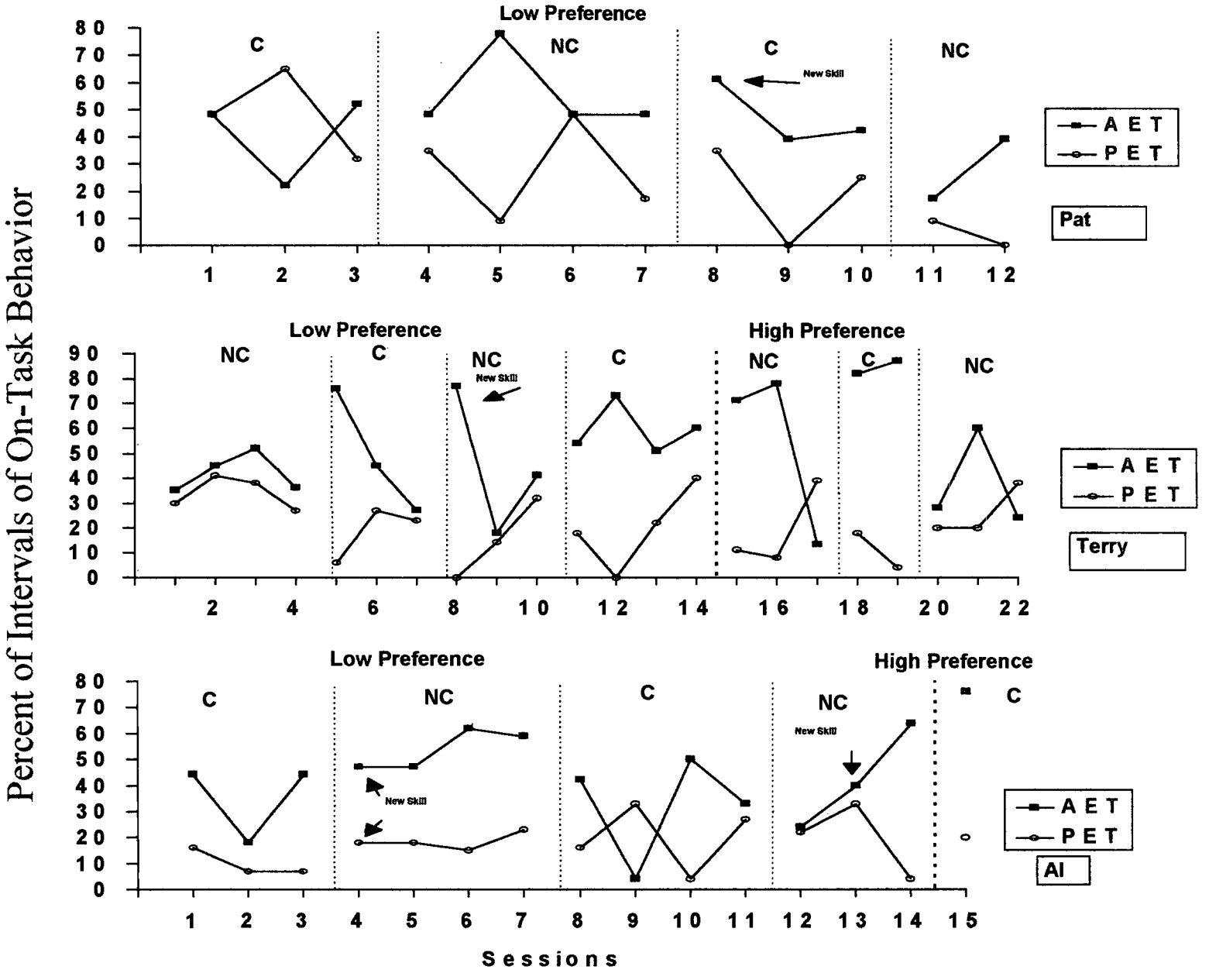
Figure 2. Percent of intervals of On-Task behavior across experimental conditions for Pat, Terry, and Al. C = Choice. NC = No Choice. AET = Active Engaged Time. PET = Passive Engaged Time.

Figure 3. Academic Efficiency across experimental conditions for Pat, Terry, and Al. C = Choice. NC = No Choice.

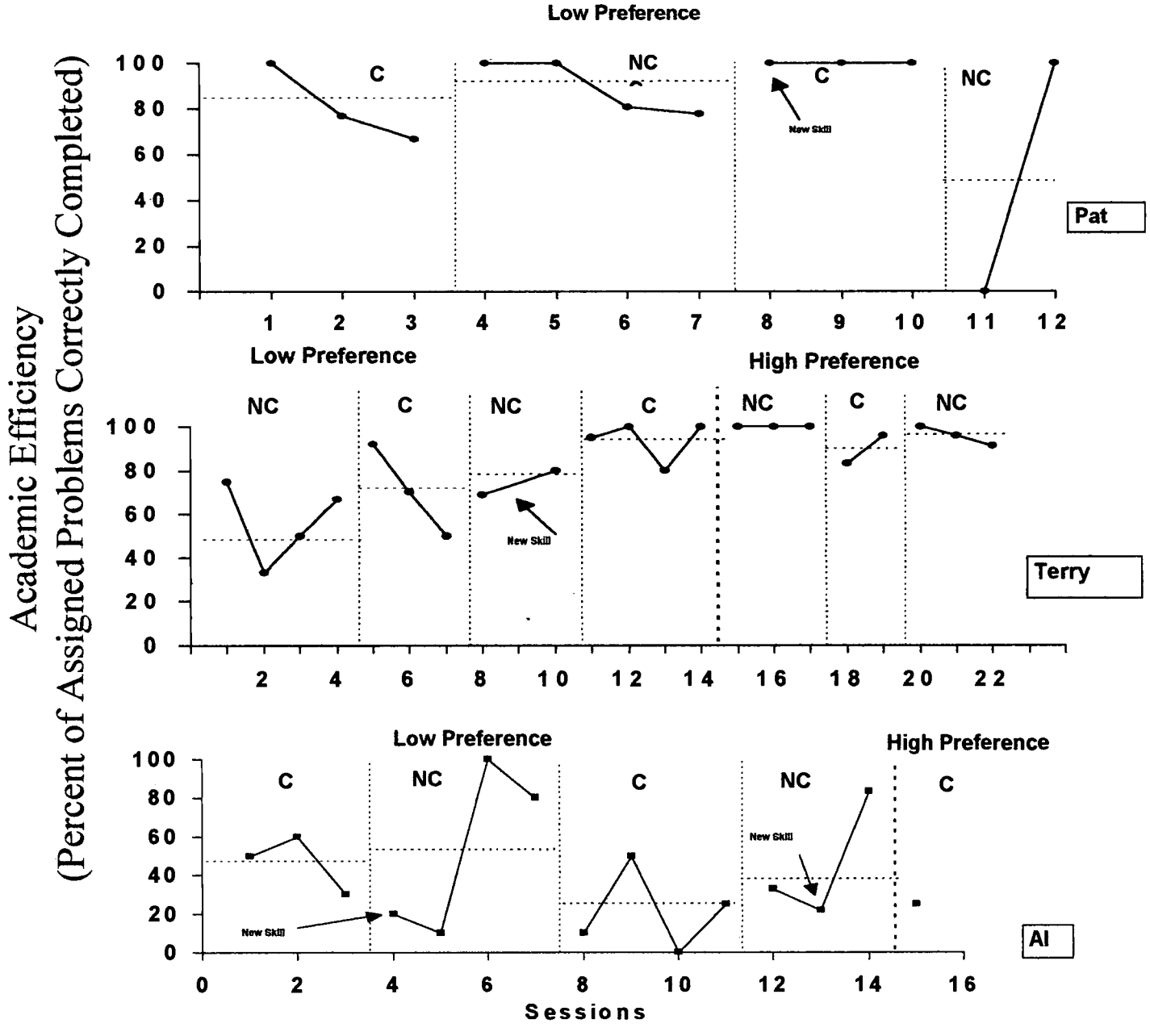
Disruptive Behavior Across Experimental Conditions



On-Task Behavior Across Experimental Conditions



Academic Efficiency Across Experimental Conditions



Appendix A
Problem Identification Interview
(Kratochwill and Bergan, 1990; pp. 97-106)

Appendix B
Intervention Rating Profile
(Martens & Witt, 1982; as cited by Kratochwill & Bergan, 1990, pp. 139-140)

The purpose of this questionnaire is to obtain information that will aid in the selection of classroom interventions. These interventions will be used by teachers of children with behavior problems. Please circle the number that best describes your agreement or disagreement with each statement [1= strongly disagree; 6= strongly agree].

1. This would be an acceptable intervention for the child's problem behavior.
1 2 3 4 5 6
2. Most teachers would find this intervention appropriate for behavior problems in addition to the one described.
1 2 3 4 5 6
3. This intervention should prove effective in changing the child's problem behavior.
1 2 3 4 5 6
4. I would suggest the use of this intervention to other teachers.
1 2 3 4 5 6
5. The child's behavior problem is severe enough to warrant use of this intervention.
1 2 3 4 5 6
6. Most teachers would find this intervention suitable for the behavior problem described.
1 2 3 4 5 6
7. I would be willing to use this intervention in the classroom setting.
1 2 3 4 5 6
8. This intervention would *not* result in negative side-effects for the child.
1 2 3 4 5 6
9. This intervention would be appropriate for a variety of children.
1 2 3 4 5 6
10. This intervention is consistent with those I have used in classroom settings.
1 2 3 4 5 6
11. The intervention was a fair way to handle the child's problem behavior.
1 2 3 4 5 6
12. This intervention is reasonable for the behavior problem described.
1 2 3 4 5 6
13. I liked the procedures used in this intervention.
1 2 3 4 5 6
14. This intervention was a good way to handle this child's behavior problem.
1 2 3 4 5 6
15. Overall, this intervention would be beneficial for the child.
1 2 3 4 5 6

Appendix C

Children's Intervention Rating Profile

(Elliot, 1986; as cited by Kratochwill & Bergan, 1990, p. 141)

1. The method used to deal with the behavior problem was fair.

I agree +-------+-------+-------+--------+-------+ I do not agree

2. This child's teacher was too harsh on him.

I agree +-------+-------+-------+--------+-------+ I do not agree

3. The method used to deal with the behavior may cause problems with this child's friends.

I agree +-------+-------+-------+--------+-------+ I do not agree

4. There are better ways to handle this child's problem than the one described here.

I agree +-------+-------+-------+--------+-------+ I do not agree

5. The method used by this teacher would be a good one to use with other children.

I agree +-------+-------+-------+--------+-------+ I do not agree

6. I like the method used for this child's behavior problem.

I agree +-------+-------+-------+--------+-------+ I do not agree

7. I think that the method used for this problem would help this child do better in school.

I agree +-------+-------+-------+--------+-------+ I do not agree

Appendix D
Treatment Integrity Checklist

Steps to be Completed by Teacher	**Complete?**
Condition: **NO Choice** of Either High or Low Preference Tasks	
1. Prepare teacher assignment choice menu.	
2. Present menu to student and select an assignment (Teacher Choice).	
4. Discuss directions with student and answer any questions.	
5. Collect and grade seat work assignments.	
Condition: **Choice** of Either High or Low Preference Tasks	
1. Prepare assignments for student selection.	
2. Prepare student assignment choice menu.	
3. Present menu to student and ask him/ her to select assignment.	
4. Discuss directions with student and answer any questions.	
5. Collect and grade seat work assignment.	

Appendix E
Sample Assignment Choice Menu (Dunlap, et al., 1994; 1996)

Here are your assignment choices for today.	Check what you would like to do.
1. Complete 20 exercises at end of book chapter.	
2. Complete worksheet of 20 problems.	

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