ABSTRACT

THE EFFECT OF ABILITY-BASED VERSES EFFORT-BASED PRAISE ON TASK PERFORMANCE AND PERSISTENCE FOR CHILDREN WITH GIFTEDNESS

By Adria Fisher

The purpose of this study was to examine the role that ability- and effort-based praise can play in persistence and task performance among children identified as gifted. Eleven middle school students who have been identified as gifted by their school district participated in non-academic activities determined individually by assessment to be of low- or high-interest. While completing these activities, either ability- or effort-based praise was delivered to the student depending on the condition. The effects of praise-type on the student’s task performance and persistence behavior were examined in relation to task interest level. Results suggest that the implementation of either praise type did not produce the negative effects on student’s persistence behavior and performance, regardless of initial task-interest.
THE EFFECT OF ABILITY-BASED VERSES EFFORT-BASED PRAISE ON TASK PERFORMANCE AND PERSISTENCE FOR CHILDREN WITH GIFTEDNESS

A Thesis

Submitted to the
Faculty of Miami University
in partial fulfillment of
the requirements for the degree of
Specialist in Education
Department of Educational Psychology
by
Adria Danielle Fisher
Miami University
Oxford, Ohio
2009

Advisor: ______________________
Dr. T. Steuart Watson

Reader: ______________________
Dr. Kevin Jones

Reader: ______________________
Dr. Thomas Southern

Reader: ______________________
Dr. Tonya Watson
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Figures</td>
<td>iii</td>
</tr>
<tr>
<td>Dedication</td>
<td>v</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>vi</td>
</tr>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Literature Review</td>
<td>1</td>
</tr>
<tr>
<td>Methods</td>
<td>8</td>
</tr>
<tr>
<td>Results</td>
<td>11</td>
</tr>
<tr>
<td>Discussion</td>
<td>14</td>
</tr>
<tr>
<td>References</td>
<td>18</td>
</tr>
<tr>
<td>Figures</td>
<td>20</td>
</tr>
<tr>
<td>Appendices</td>
<td>33</td>
</tr>
</tbody>
</table>
List of Figures

Figure 1: Liz’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 20

Figure 2: Bob’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 21

Figure 3: Sarah’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 22

Figure 4: Beth’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 23

Figure 5: Deb’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 24

Figure 6: Kelly’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 25

Figure 7: Steve’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 26

Figure 8: Megan’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 27

Figure 9: Jill’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 28

Figure 10: Matt’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 29

Figure 11: Ann’s task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance) 30

Figure 12: High-interest task persistence and performance across conditions for the group using interval-recording system (persistence) and percent correct (performance) 31
Figure 13: Low-interest task persistence and performance across conditions for the group using interval-recording system (persistence) and percent correct (performance)
Dedication

This paper is dedicated to my loving husband, Matthew, and parents, Ron and Debbie McGill, for believing in me, and providing me with their endless support.
Acknowledgements

I would like to acknowledge the outstanding contributions to this research project made by my thesis advisor, Dr. T. Steuart Watson. Steuart, I would like to thank you for your guidance through this educational journey.

And

Jessica Schimdt, Melissa Brunner, Lindsey Hirsch, Aubrey Micleli and Maren Anderson, I grant you many thanks for your generosity of time and support of my research project. I could not have completed it without your contributions.
INTRODUCTION

One of the most debated issues in education and educational research is determining the most effective way to motivate students to perform their best in the academic setting. Teachers often use feedback, praise, or rewards as a means of reinforcing a job well done, or to motivate students to complete a task. Additionally, some educational professionals and parents believe that praising children will enhance their competence, self-esteem, and self-concept related to the task. Others believe that feedback, praise, and rewards are counterproductive to the overall goals of education (Cameron & Pierce, 2002; Cameron & Pierce, 1994; Hitt, Marriott, & Esser, 1992; Katz, Assor, Kanat-Maymon, & Bereby-Meyer, 2006; Lepper, Greene, & Nisbett, 1973; Mueller & Dweck, 1998).

The purpose of the present study was to examine if there is a difference in students with giftedness task performance and persistence on a nonacademic task after receiving ability- or effort-based praise and to examine if there are different effects on a gifted student’s intrinsic motivation between high-interest and low-interest non-academic tasks. It was expected that student’s intrinsic motivation to perform the task would decrease due to ability- and effort-based praise for high interest tasks and would increase for low interest tasks. Secondly, it was expected that students who receive effort-based praise would be more persistent on the task than students who receive ability-based praise.

LITERATURE REVIEW

Research on the effects of external rewards on intrinsic motivation began in 1971 with over one hundred studies having been conducted to date (Deci, Ryan, & Koestner, 1999). Despite the large number of studies, there is at least one population that has not received as much attention because they are believed to already possess a high level of intrinsic motivation: Students who have been identified as gifted. Although these students tend to excel in the classroom, there are those gifted students who are underachieving. One proposed reason why these students are not performing to the best of their ability is a lack of intrinsic motivation (Dai, Moon, & Feldhusen, 1998). Praise and feedback have been associated with increases in intrinsic motivation for general education (Henderlong & Lepper, 2002; Katz et al., 2006; Mueller & Dweck, 1998; Weaver et al., 2003; Zins, Young, & King, 1982) and special education students (Weaver & Watson, 2003). Therefore, the present study was designed to investigate the role that ability- and effort-based
praise and positive feedback can play in persistence and performance on a non-academic task among children identified as gifted.

DeCharms (1968) first proposed the notion of an overjustification effect in which a person’s intrinsic motivation may decrease for an activity that had previously been mediated by extrinsic rewards. His theory of personal causation, which claims that a person’s motivation stems from wanting to be the driving force or causal agent of his or her own behavior and changes within his or her environment, is now referred to as a person’s intrinsic motivation. DeCharms stated that it is human nature to not want to be manipulated by external forces but rather to control the choices we make. Thus, he hypothesized that when a person feels that he/she is in control of his/her own choices, the person will value the experience, increasing his/her intrinsic motivation or sense of personal causation for the behavior. However, if the person feels that his/her behavior is being driven or controlled by an external force, he/she will devalue the behavior and as a result will be less intrinsically motivated to take part in the behavior in the future without the presence of the external force. These hypotheses constitute the overjustification effect and have been tested in a number of studies.

The theories proposed by DeCharms (1968) were first tested in a series of three experiments by Deci (1971) that focused on the effects of externally mediated rewards on college student’s intrinsic motivation towards non-academic tasks. Deci hypothesized that external rewards (e.g. money, verbal reinforcement, or positive feedback) would lead to a decrease in intrinsic motivation. Deci’s first and second experiments investigated the role of monetary external rewards on intrinsic motivation while the third used verbal reinforcement and positive feedback as the external rewards. The first experiment consisted of 24 college students from sections of an introductory psychology course. Each subject completed three, thirteen-minute sessions in which they were given the opportunity to work on Soma, a puzzle activity, while various magazines served as distracters. The number of puzzles completed during the session and the time spent working on puzzles were considered to be the participants’ measure of motivation for the task. Additionally, at the end of each session, the participants completed a self-report rating scale assessing their level of reported enjoyment in the activity. The first session served as a baseline for the mean number of completed puzzles for each group and the baseline measure of motivation. During the second session, the experimental group was externally rewarded based upon the number of completed puzzles (i.e. one dollar per completed puzzle) whereas the control
group was not given rewards. The third session was identical to the first except more configurations were made available for completion and the experimental group was informed that they were not going to be paid for their completed puzzles. Deci’s second experiment served to replicate the first but with fewer participants (n=8) in a field setting in which the activity was writing headlines for a college newspaper. The third experiment was conducted in the laboratory and followed the identical protocol as the first study except that the experimental condition received rewards verbally instead of monetarily.

The results of the first two studies suggested that the student’s intrinsic motivation to take part and complete the activities decreased after the external reward of money was removed as evidenced by a significance level below .10. This does suggest a decreasing trend in intrinsic motivation once monetary rewards were removed. However, the third study found that intrinsic motivation remained consistent across the session for the experimental group who had been receiving verbal rewards, despite the removal of the reward. The control group for this study demonstrated a significant decrease in intrinsic motivation for the activity. It was suggested that verbal rewards fall into the category of social approval and therefore do not have the controlling mechanism associated with tangible rewards.

**Summary of Studies Supporting the Use of External Rewards**

A student’s intrinsic motivation can be positively affected by a variety of external rewards but under specific circumstances. As studies have suggested, rewards that are tangible can increase a student’s intrinsic motivation as long as they are unexpected, and/or do not consist of a perceived controlling mechanism (Deci, 1971; Ryan & Deci, 2000). The type of reward can increase intrinsic motivation depending on the initial interest level in the task (Daniel & Esser, 1980; Loveland & Obey, 1979; McLoyd, 1979). For example, both high and low value tangible rewards increased intrinsic motivation for initially low interest tasks. Furthermore, for initially low interest, immediate rewards appear to be the most effective (Hitt, Marriott, & Esser, 1992). In addition, when looking at the longevity of the effects of tangible rewards, one must keep in mind the age of the child. For young children a decrease in intrinsic motivation due to the reception of rewards was demonstrated to diminish to baseline level after a seven-week period (Loverland & Obey, 1979). Additionally, older students respond positively to the use of external rewards for high-structured tasks (Daniel & Esser, 1980).
Verbal rewards were demonstrated to increase intrinsic motivation in several studies. Specifically verbal praise seems to be most beneficial when used appropriately such as being sincere, spontaneous, promotes autonomy, and conveys a realistic expectation of the student (Henderlong & Lepper, 2002). Also, verbal praise that is effort-based appears to encourage students to be mastery oriented, which is the preferred learning orientation by educators (Pierce, Cameron, Banko, & Sylvia, 2003). Lastly, the reaction to the use of external rewards varied in relation to the gender of the student. Male students demonstrated an increase in their time spent on tasks when they received high verbal rewards (Zinger, Young, & King, 1982). Female students, on the other hand, appear to benefit from feedback when they report initially moderate interest in a task. However, regardless of gender, feedback did not cause a significant change in intrinsic motivation for children who exhibited initially high- or low-interest in a task (Katz, Assor, Kanat-Maymon & Bereby-Meyer, 2006).

Finally, the task type plays a role in how external rewards will be perceived. It has been demonstrated that rewards increase intrinsic motivation for tasks that become progressively more difficult (Pierce, Cameron, Banko, & Sylvia, 2003). It appears that students relate the reward to their progress at meeting the challenges of these progressively demanding tasks.

**Summary of Studies Against the Use of External Rewards**

On the other hand, an equivocal proportion of the extant studies have found evidence that external rewards decrease student’s intrinsic motivation under certain conditions. Expected tangible rewards (Cameron & Pierce, 1994; Lepper, Greene, & Nisbett, 1973), delayed (Hitt, Marriott, & Esser, 1992), and rewards that are performance-contingent (Deci, Koestner, & Ryan, 1999), especially for tasks that remain at a constant level of expected performance, appear to decrease intrinsic motivation once they are removed. Intrinsic motivation for low-structured tasks was negatively affected by external rewards (Daniel & Esser, 1980). For initially high-interest academic tasks, both high- and low-value rewards decreased intrinsic motivation.

Some studies have found that praise can undermine some students’ motivation and performance when the students begin to link the praise with their ability and intelligence, leading students to believe that intelligence is a stable trait (Mueller & Dweck, 1998). To cope with their perception that intelligence is stable; these students appear to develop a performance-goal orientation towards academics. Additionally, praise that is perceived by the students to create a comparison between peers can decrease the student’s intrinsic motivation (Cameron & Pierce,
Lastly, gender also seems to be a factor in the reaction of verbal rewards. For moderately interesting tasks, feedback appears to decrease intrinsic motivation in male students once the feedback is extinguished, and high-verbal rewards decreased or inhibited female students’ intrinsic motivation (Katz, Assor, Kanat-Maymon, & Bereby-Meyer, 2006).

Reasons for the Difference in Responses to External rewards on Intrinsic Motivation

The majority of these studies utilized group experimental designs when investigating how students react to external rewards in terms of their intrinsic motivation. The outcomes of these studies, as to the utility of external rewards and the potential for these rewards to have detrimental effects on student’s intrinsic motivation, varied due in part to the use of group designs. Rewards should be used as positive reinforcement for students’ appropriate behaviors or completion of a task. A reward should also be chosen to suit each student so that the reward being used has been established as being reinforcing for the student. Additionally, rewards that are reinforcing should be faded out, not abruptly terminated. The majority of these studies did not fade out the rewards, which resulted in the perception that the rewards had aversive effects on the intrinsic motivation of these students. This is especially important to note in the studies that used expected or performance-contingent rewards since these students may have believed that the sudden lack of receiving the reward was due to their personal achievement at the task and therefore would perceive the task in a negative manner. Overall, the differences in the reported outcomes of these studies can be resolved by using a single-subject design, choosing rewards that are reinforcing for that student, and implementing fading out the rewards.

Giftedness and Motivation

Our education system typically refers to a student with giftedness as one who is intellectually or academically talented, although motivation to learn and achieve have also been included in some descriptions of giftedness (Dai, Moon, & Feldhusen, 1998). Differences between average ability students and gifted students in relation to what motivates them to persist and perform in the classroom have been examined. Looking at students with giftedness from a social cognitive perspective, it appears that motivation stems from perceived competence for students with giftedness, making them more likely to seek out challenging activities. However, students with giftedness also seem to be learning goal oriented, and this orientation may have greater influence on their intrinsic motivation than perceived competence. Gifted students have been reported to give themselves progress feedback when completing tasks as a means of
motivating themselves and tracking the reasons for their successes and failures (Schunk & Swartz, 1993). Additionally, these students, through situational cues and evaluative feedback from parents and teachers, formed ability and effort attributions towards their likely success or failure at a given task, which effects their persistence and performance on that task (Dai, Moon, & Feldhusen, 1998).

Studies have supported that gifted students are naturally more intrinsically motivated towards academics, making it a characteristic of gifted students, but there is also a classification known as motivationally gifted which consist of students with high academic intrinsic motivation (Gottfried, Cook, Eskeles-Gottfried, & Morris, 2005). Gottfried and colleagues investigated the difference between students considered motivationally gifted compared to their peers on academic issues in a longitudinal study (2005). This study followed 130 students from infancy until age 24, assessing a variety of academic issues (i.e. academic intrinsic motivation, achievement, classroom functioning, intellectual performance, and self-concept) using a comprehensive battery of standardized measures. The results of this study found support that academic intrinsic motivation is a separate construct from I.Q., and that the majority of students with high academic intrinsic motivation or “motivationally gifted”, were actually not those students considered intellectually gifted. Motivationally gifted students were more likely to attend a four-year college in comparison to their peers, which consisted of intellectually gifted students. These results are contrary to the notion that students with giftedness possess high intrinsic motivation towards academics, suggesting that underachieving gifted students are in need of reinforcements in school that will increase their intrinsic motivation towards learning and performing in the classroom to their ability.

This raises the issue of why we have underachieving gifted students and how to increase their intrinsic motivation towards their academic achievement. Hoekman, McCormick and Barnett (2005) conducted a study that investigated if relationships exist between intrinsic and extrinsic motivation, affective variables (state and trait anxiety and coping strategies), school satisfaction, and commitment to schoolwork in 402 7th grade students with giftedness. These issues are particularly necessary to address since intrinsic motivation has been positively linked with a student’s commitment to schoolwork and satisfaction with school. Oftentimes teachers will use external rewards to increase their gifted student’s motivation, yet a negative relationship
between extrinsic motivation and commitment to school work has been reported in this study, which questions the use of rewards with gifted students.

Last, as previously stated, students with giftedness have differing viewpoints on the reasons behind their successes and failures in comparison with their typical peers in that they form ability- and effort-based attributions towards the likelihood of being successful and failing at a task (Dai, Moon, & Feldhusen, 1998). Assouline, Colangelo, Ihrig, and Forstadt (2006) researched the attributions that students with giftedness have towards their success and failures in the academic setting. A sample of 4,901 gifted students, ranging in grades 3rd-11th completed a questionnaire consisting of items assessing perceptions of parental involvement, learning styles, self-perception of and perceptions of others regarding ability in various educational areas, and success and failure attributions. The results demonstrated that when determining the reasons behind their success, gifted students were likely to attribute it to effort and ability; however, when failure was the outcome, they tended to attribute it both long-term and situational effort, and task difficulty, but not ability. This suggests that gifted students realize that there is a component of effort in every task and that they cannot always rely solely on their ability to arrive at a successful outcome. Although there were gender differences in attributions of success and failures in that males attributed their success more often to ability, whereas females stated that their success stemmed from hard work. The reasons behind these self-report differences between the genders remain speculative. The authors suggest that male students may be more accurate at their self-assessment in comparison to their female peers.

*Present Study*

Thus far, studies investigating the overjustification effect with students have been primarily focused on students in general or special education classes. However, the effect of ability- and effort-based praise has yet to be investigated with children with giftedness. Additionally, the majority of the previous studies have utilized group-design to investigate a change in intrinsic motivation of students in relation to external rewards. There have not been many studies using single-subject design on this issue with gifted students, or students in general. This is unfortunate considering students respond to contingent rewards differently. Thus the purpose of the present study was (1) to examine if there is a difference in students with giftedness task performance and persistence on a nonacademic task after receiving either ability- or effort-based praise and (2) to examine if there are different effects on a gifted student’s intrinsic
motivation between high interest and low interest non-academic tasks. It was hypothesized that students' intrinsic motivation to perform the task will decrease due to ability- and effort-based praise for high interest tasks and will increase for low interest tasks. Secondly it was hypothesized that students who receive effort-based praise will be more persistent on the task than students who receive ability-based praise.

**METHOD**

**Participants**

Approximately eleven participants were selected for this study. The participants consisted of students identified as gifted as determined by Northwest local school district and were in the 6th grade. Three males and eight female students volunteered to take part in this study, and they were coming from households within the Cincinnati area whose families are classified as being low to middle socioeconomic status. The average age of the participants was eleven years old. Ten of the participants were Caucasian and one student was African American. All of the participants were randomly selected. Consent and assent was obtained from all participants prior to taking part in the study (see Appendix A and B).

**Setting**

This research study took place at a suburban middle public school located in Southwest Ohio. Enrollment for the academic year (2007-2008) was approximately 926 students, with 52% male and 48% female students. The school’s racial composition was as follows: 60% of the students of the students were Caucasian, 32% were African American, 6% were Multiracial and less than 1% were Hispanic. Approximately 39% of students were economically disadvantaged (Ohio Department of Education, 2007).

**Examiners**

Two examiners were trained specifically to conduct this research individually with the students. These examiners collected the data on the performance of the student’s performance while three additional examiners reviewed the videotaped sessions for task persistence. The Behavioral Observation System (BOS), a systematic coding form, was used during each ten-minute session to observe the participant’s persistence behavior. The primary examiner also collected and reviewed data for calculating inter-observer and inter-scorer agreement. The primary examiner was a second year Miami University school psychology graduate student and the additional four of the examiners were first year students in the same program.
Materials

The following puzzles were selected to meet the ability level of the participants: Sudoku, word search, crossword puzzle, and word scramble. (1) The Sudoku consisted of a 9X9 grid in which the participant must place the numbers 1-9 in each column and each row only once. Additionally, the grid is divided into 9 3X3 boxes in which the person must place the numbers 1-9, using each number only once. The puzzle was presented to the person as partially completed (see Appendix C) and the participant was instructed to complete the missing boxes. (2) A word search is a box with words written in various directions within a grid of letters (see Appendix D). The participant was asked to locate the words provided in a word bank. (3) A crossword puzzle contains words divided into a series of empty boxes in which each box represents one letter of the word (see Appendix E). The first box in the series contains a number that corresponds to a clue. The boxes are arranged either horizontally or vertically so that most of the letter boxes form parts of two words. The participants were provided with a word bank. The participants were asked to locate the appropriate word for each clue and place the word in the corresponding numbered boxes. (4) A word jumble is a puzzle containing a series of words in which the letters have been scrambled. A word bank was provided and the participant was asked to figure out the word the letters form (see Appendix F).

The puzzles were selected to match the ability level of the students. This was accomplished by presenting various puzzles to a small group of general education students that are the same age as the participants in this study. The students were given five samples of each puzzle that varied in the degree of difficulty. The students were asked to complete each puzzle then rank them from one to five based on degree of difficulty. This study used the puzzles with an average ranking of three, representing the median degree of difficulty for this population of students.

Dependent Variables

Task performance was measured by the performance of each participant on his or her target activity as determined by the percentage of the puzzles completed in each session. The total number of correct responses was divided by the total number of possible responses. For example, if a student completed 2.5 crossword puzzles, which contained a total number of possible responses of 42 and correctly responded to 38 of the 42 items, then his/her percent performance was 90.4% on this activity.
Task persistence was measured using the Behavioral Observation System (BOS) (see Appendix G). This partial interval observation-recording system was used to measure persistence behavior (e.g. looking and working on the target activity).

**Independent Variable**

Two independent variables were measured: ability-based praise and effort-based praise. Ability-based praise During the ability-based praise conditions, participants were told statements such as, “Wow you are doing really well on this (activity name). You must be really smart to be able to do this puzzle, especially since you have been working so quickly.” Participants in the effort-based praise session were told statements such as, “Wow you are doing really well on this (activity name). You must be working hard to be able to do this puzzle, and to be able to do this puzzle so quickly.” During the control conditions, no verbal praise statements were administered.

**Procedures**

To determine each student’s interest level in each of the activities, each was presented with pictures with descriptions of the following activities: Sudoku, word search, crossword puzzle, and word jumble. Participants took part in a preference assessment in which their preference for each activity was determined and ranked (see Appendix H). From the preference assessment, each student’s activity of high-interest and low-interest were determined.

All participants took part in two 10-minute sessions in which baseline data were collected. During these sessions, the student’s high- and low-interest nonacademic activities were made available to the subject and the subject’s persistence and performance on each activity was recorded. All subjects then took part in each condition (i.e. high-interest with effort-based praise, high-interest with ability-based praise, low-interest with effort-based praise, and low-interest with ability-based praise). Prior to the start of each session, participants were told that they have 10 minutes to complete their activity booklet, which contained the puzzles for their designated condition (i.e. puzzles selected as being their low- or high-interest non-academic task). Every 30 seconds, participants were praised based on their condition. During this time, the experimenter will be recording the time spent engaged in the puzzle (persistence) and once the 10 minutes has elapsed, the subject’s performance (performance) at puzzle completion was assessed.

**Research Design**

An alternating treatment design across participants was utilized to determine if the type of praise had a differential impact on task performance and persistence. Baseline data for the high-
and low-interest tasks for all participants were collected during two ten-minute sessions. The treatment conditions followed in alternating ten-minute sessions. Each participant was exposed to each condition once within a total of one-hour. The four conditions were counter-balanced across participants.

*Interobserver Agreement & Interrater Agreement*

All sessions were videotaped and two graduate students reviewed 20% of the tapes while recording the persistence behavior using the BOS. Inter-observer reliability was calculated by dividing the number of intervals recorded as persistence by the sum of the total agreements minus the disagreements multiplied by 100 percent. Interobserver agreement averaged 98.7% among the 14 ten-minute sessions sampled (range, f 96% to 100%). Interrater agreement was assessed by having two graduate students score 20% of the activities. The reliability was determined by dividing the lower estimate by the higher estimate and then multiplying by 100%. Interrater agreement averaged 97% among the 14 activities sampled (range, 91.4% to 100%).

*Treatment Fidelity*

Treatment integrity refers to whether the treatment was delivered as intended or the performance with which a treatment was delivered. For this study, the examiners monitored treatment fidelity during each ten-minute treatment session. The examiner completed a checklist of praise statements during each session that were specific to the condition. The self-recorded fidelity sheets indicated that the independent variable was implemented correctly 100% of the time during each session (see Appendix I).

**RESULTS**

*Task Persistence*

*High-interest task* Task persistence for the eleven participants is shown in Figures 1 through 11. For 9 of the 11 participants (Liz, Bob, Sarah, Beth, Deb, Kelly, Steve, Megan and Ann), there was minimal change in their task-persistence as a result of receiving either ability- or effort-based praise for a high-interest activity. These participants were persistence for a minimum of 92.1% of the intervals. This is not consistent with the previous findings, which report that a student’s persistence is negatively affected by praise for tasks the student considers to be of high-interest (Daniel and Esser, 1980; McLoyd, 1979). Two of the participants (Jill and Matt) demonstrated more changes in their persistence behavior across the conditions. Jill’s persistence decreased during the ability-based praise in comparison to control condition (-14.8%) and effort-
based condition (-11.5%). This is consistent with the results reported by Koestner et al (1989) that suggest that female students respond negatively to ability-based praise and positively to effort-based praise. Matt’s persistence changed from 100% persistence during the control and ability-based conditions to 91% when he received effort-based praise. Although this is a small difference, it is consistent with previous research Koestner et al (1989) that suggests that male students respond negatively to effort-based praise for tasks the student considers to be of high-interest or an easy task. Overall, the group appeared to more persistence when receiving ability-based praise for a high-interest task. Additionally, the group appeared to decline in their persistence when receiving effort-based praise in comparison with the control and ability-based praise conditions. These findings would be consistent with previous research for the male students (Daniel and Esser, 1980; Koestner et al., 1989; McLoyd, 1979). However, since the group was composed primarily of female students, the results are inconsistent with previous studies suggesting that ability-based praise hinders female students’ persistence (Koestner Daniel and Esser, 1980; Koestner et al., 1989; McLoyd, 1979).

Low-interest task Task persistence for the eleven participants is shown in Figures 1 through 11. For 9 of the 11 participants (Liz, Bob, Sarah, Beth, Kelly, Steve, Megan, Jill, and Ann), there was minimal change in their task-persistence as a result of receiving either ability- or effort-based praise for a low-interest activity. These participants were persistence for a minimum of 93.3% of the intervals. These data are not consistent with previous research, which suggests that students perform with more persistence when receiving praise for this level of task interest (Daniel and Esser, 1980; McLoyd, 1979). Three of the participants (Deb, Steve and Matt) demonstrated more differences in their persistence behavior between conditions. Deb’s data is consistent with previous research. During the control condition, she was persistence for 80% of the intervals. Her persistence behavior increased slightly to 93% when she received ability-based praise and a greater increase was demonstrated when she received effort-based praise (98%). This is consistent with previous findings that suggest that girls respond more positively to effort-based praise when compared to ability-based praise (Koestner, 1989). Although for low-interest tasks, either praise type is reported to be motivating to students (McLoyd, 1979).

Task Performance

High-interest task Task performance for the eleven participants is shown in Figures 1 through 11. For 8 of the 11 participants (Ann, Liz, Bob, Matt, Sarah, Deb, Steve and Jill), there
was minimal change in their performance as a result of receiving either ability- or effort-based praise for a high-interest activity in comparison to the control condition. Three of the participants (Beth, Kelly and Megan) had greater variability in their performance between conditions. Beth’s performance increased when she received ability-based praise (11.7%) in comparison with the non-praise condition (4.7%); however, she had a greater increase in her performance when she received effort-based praise (16.5%). This is consistent with Koestner et al 1989 that predicted that female students react more positively to effort-based praise. Kelly and Megan had an increase in their performance when receiving ability-based praise for their high-interest activities (Figures 6 and 8). This is the opposite of what is predicted by previous studies (Assouline, Colangelo, Ihrig, and Forstadt, 2006). Ann’s data show a decrease in her performance when she received ability-base praise and Matt’s performance increased more when receiving ability-based praise in comparison to the effort-based praise condition (Koestner et al, 1989). Overall, there was not a significant change in the group’s performance for high-interest tasks in relation to either praise when compared to the control condition.

**Low-interest task** The reactions of the participants in regards to receiving praise for a low-interest task were variable. Approximately half of the participants (Liz, Sarah, Deb, Matt, Kelly, and Beth) benefited from receiving either or both praise-types in comparison to the control condition while the other half (Bob, Steve, Ann and Jill) declined in their performance when receiving praise for a low-interest task. Megan demonstrated no minimal change in her performance across praise conditions.

Several of the participants (Beth, Kelly, Jill, Ann, Matt, Steve, and Bob) responded with greater differences, which should be looked at more closely. Beth’s performance increased when she received effort-based praise (from 19.6% to 32.2%); however, effort-based praise affected her performance less than when she received ability-based praise (39.6%) for a low-interest task. This is the opposite of what was seen when she was receiving praise for the high-interest task. Kelly had a similar pattern in her response to effort-based praise (from 69% to 88.9%) with a greater increase in her performance while receiving ability-based praise (97%). Jill, Ann, and Matt also demonstrated similar differences in their response to the two praise types (Jill: effort-based = 28.8% and ability-based 41.5%; Ann: effort-based = 18.5% and ability-based = 26.5%; Matt: effort-based = 10.4% and ability-based = 21.9%) when compared to the control condition (Jill: control = 35.3%; Ann: control = 27.9% ; Matt: control = 14%). All five of these participants
appear to have a positive response to receiving ability-based praise for a low-interest task; however, Jill’s, Ann’s, and Matt’s patterns differed from Beth’s and Kelly’s pattern of responses in that they demonstrated a decrease in their performance when they received effort-based praise in comparison to the non-praise condition. Matt’s responses are consistent with previous research that suggests that male students respond positively to ability-based praise and respond negatively to effort-based praise (Koestner et al, 1989; Zinser, Young, and King, 1982). The two other male students in this project also responded in this predicted manner. Steve’s and Bob’s performance did not differ significantly when receiving ability-based praise but decreased by half while receiving effort-based praise for the low-interest task. The data for the female students demonstrated that these students did not respond as predicted in that the female students should have responded more positively to effort-based praise and responded negatively to ability-based praise (Assouline et al, 2006; Koestner et al, 1989)

DISCUSSION

Educational professionals working with students identified as gifted commonly refer to research findings that suggest that praising students with ability-based statements will produce detrimental effects on their classroom performance and behavior. These professionals advocate praising students based on their effort since studies have demonstrated that effort-based praise does not produce the negative effects associated with ability-based praise. However, the research in this area is limited and the majority of these studies focus on students in general education classes. This study sought to examine the effects of both effort-based and ability-based praise working with students identified as gifted to provide education professions with data based suggestions for motivating students. The present study examined two elements thought to be affected by administering praise as a reinforcer. First, this study investigated if there is a difference in students with giftedness’ task performance and persistence on a non-academic task after receiving either ability- or effort-based praise. Secondly, this study examined if there is a different effect on a student with giftedness’ intrinsic motivation between high-interest and low-interest non-academic tasks.

Previous studies have suggested that students will respond negatively to verbal praise for high-interest tasks and positively for low-interest tasks. More specifically, male students will express a decrease in their intrinsic motivation to complete a high-interest task when they receive
high-verbal rewards or ability-based praise and female students will be more persistence with low-verbal rewards or effort-based praise (Koestner, 1989; Hitt, Marriott, & Esser, 1992; Mueller & Dweck, 1998; Zinger, Young, & King, 1982). For low-interest tasks, students were predicted to spend more time on the task when they receive reinforcement (Hitt, Marriott, & Esser, 1992). Contrary to the previously listed studies, this study found no evidence of negative effects on the group’s persistence behavior and performance when students were working on a high-interest non-academic task. Additionally, this study found that overall group persistence was similar for both high- and low-interest tasks even though it was predicted to more students would have been during the low-interest task.

Gender differences were seen in this study that support the findings of Hitt, Marriott, and Esser, (1992), Mueller & Dweck (1998), and Zinger, Young, & King (1982). The three male students’ data support that male students perform better when receiving ability-based praise in comparison to effort-based praise for low-interest tasks. These students’ demeanors changed depending on the condition. For example, while working with one of the male students, it was observed that the student responded with a verbalized “thank you” when he received ability-based praise. When he received effort-based praise, the student looked up at the examiner without vocalizing. He then looked down shaking his head. During the effort-based praise condition, this student repeated asked, “When will this activity be over” supporting that he was becoming irritated with the examiners comments. He ceased to ask this question when an ability-based praise condition began. Conversely, the vocalizations of the female participants were uniform across conditions. In other words, the female students who said “thank you” when being praised gave this response for both ability- and effort-based praise. The behaviors observed during these sessions may be a reflection of gender differences in rewards currently utilized at home and at school.

One of the female participants did perform as predicted by the previously listed studies in terms of her persistence during the high-interest condition. Jill’s persistence decreased when she received ability-based praise (85.2%) and she responded positively to effort-based praise (96.7%). However, she demonstrated an increase in her task performance when receiving ability-based praise for their high-interest task. Conversely, her task-performance decreased below that of the non-praise and ability-based praise conditions when she received effort-based praise even though she was persistence 96.7% of the time. These data suggest that a student may not appear to be
persistence when receiving a particular form of verbal praise even though according to their performance, they are more actively engage. Therefore, a more appropriate measure of the effect of praise on an individual is their performance at a task.

Overall, this study found no evidence of negative effects on the group’s persistence behavior and performance from the control conditions to either praise type conditions. This suggests that praising students identified as gifted, whether for ability or effort is not harmful as previously reported. As with other forms of rewards, individual differences were present but not to a harmful degree. Educational professions working with gifted students should incorporate both forms of praise within the classroom as a means of motivating all students, without apprehension about producing negative effects.

Limitations

The present study is not without limitations. As previously discussed gender differences in observed behaviors were noted during the varying conditions. It may be that student’s behavior is more affected by their individual attributions established through their experiences at home and at school that may have contributed to changes across conditions independent from the verbal reward administered during the condition. Therefore, the participants may have performed in the same manner regardless of the type of praise being received. This limitation is not specific to research with students identified as gifted but could be a criticism of previous research utilizing verbal rewards as a means of motivation. A second limitation is that the participants may have reacted to the novelty of the research condition. The participants were exposed to a new adult with whom they worked with one-on-one for an hour. The lack of change in behavior expressed by the group when receiving either praise-type may be due in part to the circumstances surrounding the sessions. As the group becomes more comfortable with their surroundings, they may express greater change in their behavior. Therefore, the findings of this study may be limited by the amount of time the students were exposed to each condition within a highly structured environment. Exposing the group to multiple sessions across time may control for these variables, resulting in a clearer understanding of the effects of praise.

Future Research

Future research should continue to investigate the affects of praise with gifted students based on task differences. First, it is suggested that the present study be replicated by include more trials for each condition. Secondly, it is suggested that future research look at the effect of
praise type depending on task difficulty with students identified as gifted. It may be that students will respond differently to verbal praise when they find a task to be difficult or easy in comparison to their interest level in the task. Last, a feedback conditions could be added as a third type of verbal praise. A positive feedback condition could be considered a neutral condition in which the student’s attributes and effort are not the addressed.
REFERENCES


Figure 1: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 2: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 3: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 4: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 5: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 6: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 7: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 8: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 9: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 10: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 11: Task persistence and performance across conditions for the individual participant using interval-recording system (persistence) and percent correct (performance).
Figure 12: Average and Median task persistence and performance across conditions for the group using interval-recording system (persistence) and percent correct (performance).
Figure 13: Average and Median task persistence and performance across conditions for the group using interval-recording system (persistence) and percent correct (performance).
Appendix A

Consent

Dear Parent:

My name is Adria McGill and I am a School Psychology graduate student at Miami University. I am currently working with Dr. Stuart Watson on a study looking at the effects of various types of verbal praise on gifted student’s motivation.

Your son or daughter is invited to participate in this study on increasing student’s intrinsic motivation with gifted students by using verbal praise. I will be asking your son or daughter to participate in a few non-academic activities, such as puzzles. He/she will be receiving various types of verbal praise and feedback as a means of motivating him/her. All sessions should take approximately 30 minutes for a total of one hour. His/her name will not appear on any protocols or research reports. Instead, code names will be used for reporting purposes. His/her participation is voluntary and he/she may withdraw from the session at any time or refuse to answer any questions that make him/her uncomfortable. He/she will not be asked to do anything that exposes himself/herself to risks beyond those of everyday life. The benefit of the study, scientifically, is it will help educators with motivating gifted students in the classroom.

If you have further questions about the study, please contact (Adria McGill) at (529-8762, mcgilla2@muohio.edu). If you have questions about your student’s rights as a research participant, please call the Office of Advancement of Research and Scholarship at 529-3734 or email: humanparticipants@muohio.edu

Thank you for your participation. We are very grateful for your help and hope that this will be an interesting session for you. You may keep this portion of the page.

**********************************************************************
Cut at the line, keep the top section and return the bottom section.
I agree to participate in the study increasing intrinsic motivation. I understand my participation is voluntary and that my name will not be associated with my responses.

Parent’s signature _______________________________     Date____________________

**For research purposes each sessions is to be videotaped for session evaluation and scoring. If you are willing to have your student videotaped with the examiner, please indicate below. The videotapes are used for research purposes only-the tapes will not be shown or viewed outside of the School Psychology program.

I grant my permission to be videotaped during the research session.

_________________________________________  _______________________
Please sign your name                                    Date
Appendix B

Assent

Dear Student:

My name is Adria McGill and I am a School Psychology graduate student at Miami University. I am currently working with Dr. Stuart Watson on a study looking ways to increase gifted student’s motivation.

You are invited to participate in this study on increasing student’s motivation. I will be asking you to participate in a few non-academic activities, such as puzzles. There will be a total of 6 sessions, all of which should take approximately 30 minutes. Your name will not appear on any protocols or research reports. Instead, code names will be used for reporting purposes. Your participation is voluntary which means that you may withdraw from the session at any time or refuse to answer any questions that make you uncomfortable. You will not be asked to do anything that exposes you to risks beyond those of everyday life. The benefit of the study is it will help educators with motivating gifted students in the classroom.

If you have further questions about the study, please contact (Adria McGill) at (529-8762, mcgilla2@muohio.edu). If you have questions about your student’s rights as a research participant, please call the Office of Advancement of Research and Scholarship at 529-3734 or email: humanparticipants@muohio.edu

Thank you for your participation. We are very grateful for your help and hope that this will be an interesting session for you. You may keep this portion of the page.

************************************************************************

I agree to participate in the study increasing intrinsic motivation. I understand my participation is voluntary and that my name will not be associated with my responses.

Student’s signature _______________________________     Date____________________

**For research purposes each sessions is to be videotaped for session evaluation and scoring. If you are willing to have your student videotaped with the examiner, please indicate below. The videotapes are used for research purposes only-the tapes will not be shown or viewed outside of the School Psychology program.

I grant my permission to be videotaped during the research session.

_________________________________________________________  ________________________

Please sign your name                     Date
Appendix C

Sudoku as presented to the subject:

<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>1</td>
<td>9</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>6</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>8</td>
<td>3</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
<td>9</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Completed Sudoku:

<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>W V E R T I C A L L</td>
<td>Week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R O O A F F L S A B</td>
<td>Find</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A C R I L I A T O A</td>
<td>Random</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N D O D K O N W D C</td>
<td>Sleuth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D R K E S O O D D K</td>
<td>Backward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O E E P Z E G L I W</td>
<td>Vertical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M S I I H O A E R A</td>
<td>Diagonal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A L R K R R I R E R</td>
<td>Wikipedia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K O D I D E D R C D</td>
<td>Horizontal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H E L W S L E U T H</td>
<td>Word Search</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix E

Across
1. A clump or tuft, as of growing grass.
3. Either the northern or southern half of the earth as divided by the equator or the eastern or western half as divided by a meridian.
5. Extremely cold; frigid.
6. One of the principal land masses of the earth, usually regarded as including Africa, Antarctica, Asia, Australia, Europe, North America, and South America.
9. Permanently frozen subsoil, occurring throughout the Polar Regions and locally in perennially frigid areas.
10. A fungus that grows symbiotically with algae, resulting in a composite organism that characteristically forms a crustlike or branching growth on rocks or tree trunks.
11. Living or growing on mountains above the timberline.
12. Relating to, connected with, or located near the North Pole or South Pole.
13. An alteration or adjustment in structure or habits, often hereditary, by which a species or individual improves its condition in relationship to its environment.
14. Something that provides cover or protection, as from the weather.

Down
2. Someone who works to protect the environment from destruction or pollution.
4. An area of land.
7. Marked by unforeseen hazards; dangerous or deceptive.
8. An area or a region distinguished from adjacent parts by a distinctive feature or characteristic.
15. A treeless area between the icecap and the tree line of Arctic regions, having a permanently frozen subsoil and supporting low-growing vegetation such as lichens, mosses, and stunted shrubs.
Appendix F

**Directions:** For each number unscramble the letters and enter the words in the text box to the right.

<table>
<thead>
<tr>
<th>Scrambled Letters</th>
<th>Enter Correct Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  htcbissep</td>
<td></td>
</tr>
<tr>
<td>2  earlapbhaop</td>
<td></td>
</tr>
<tr>
<td>3  psioislmobr</td>
<td></td>
</tr>
<tr>
<td>4  botaelalbu</td>
<td></td>
</tr>
<tr>
<td>5  slmoiehepis</td>
<td></td>
</tr>
<tr>
<td>6  tdclteaebe</td>
<td></td>
</tr>
<tr>
<td>7  ilerdicben</td>
<td></td>
</tr>
<tr>
<td>8  renelcaac</td>
<td></td>
</tr>
<tr>
<td>9  iiisrsonimne</td>
<td></td>
</tr>
<tr>
<td>10 rpeenlain</td>
<td></td>
</tr>
<tr>
<td>11 vierwneit</td>
<td></td>
</tr>
<tr>
<td>12 ploaartoc</td>
<td></td>
</tr>
<tr>
<td>13 ereamttis</td>
<td></td>
</tr>
<tr>
<td>14 raetofredp</td>
<td></td>
</tr>
</tbody>
</table>

http://www.exambuddy.com/samples/ongames/jumble.html
Appendix G

Behavior Observation System

Name of student: __________________________ Date: ____________ Observer: ____________

Target Behavior(s) t1 = _______________________________________ t2 = _______________________________________

Setting: ________________________________

Is this estimate of the target child’s behavior close to his/her average? YES NO

Is this estimate of the classroom (peer) behavior close to their average? YES NO

VALIDITY CHECK: TEACHER: Please review these estimates of child and general classroom persistence rates and answer the following questions:

Is this estimate of the target child’s behavior close to his/her average? YES NO Is this estimate of the classroom (peer) behavior close to their average?

YES NO

---

<table>
<thead>
<tr>
<th>Child Mean</th>
<th>Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total On= _____ %  t1,t2= _____ %</td>
<td></td>
</tr>
</tbody>
</table>

Peer Mean On/TA = _____ / _____ = _____% On/P= _____ / _____ = _____ Total On

<table>
<thead>
<tr>
<th>Peer</th>
<th>Peer</th>
<th>Peer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 on off T T- T+ P C C+ 2 on off t1 t2</td>
<td>3 on off t1 t2 4 on off t1 t2 5 on off t1 t2</td>
<td>6 on off t1 t2 7 on off t1 t2 8 on off t1 t2 9 on off t1 t2</td>
</tr>
<tr>
<td>10 on off t1 t2 T T- T+ P C C+</td>
<td>11 on off t1 t2 T T- T+ P C C+</td>
<td>12 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>20 on off t1 t2 T T- T+ P C C+</td>
<td>21 on off t1 t2 T T- T+ P C C+</td>
<td>22 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>30 on off t1 t2 T T- T+ P C C+</td>
<td>31 on off t1 t2 T T- T+ P C C+</td>
<td>32 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>38 on off t1 t2 T T- T+ P C C+</td>
<td>39 on off t1 t2 T T- T+ P C C+</td>
<td>40 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>47 on off t1 t2 T T- T+ P C C+</td>
<td>48 on off t1 t2 T T- T+ P C C+</td>
<td>49 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>56 on off t1 t2 T T- T+ P C C+</td>
<td>57 on off t1 t2 T T- T+ P C C+</td>
<td>58 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>65 on off t1 t2 T T- T+ P C C+</td>
<td>66 on off t1 t2 T T- T+ P C C+</td>
<td>67 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>74 on off t1 t2 T T- T+ P C C+</td>
<td>75 on off t1 t2 T T- T+ P C C+</td>
<td>76 on off t1 t2 T T- T+ P C C+</td>
</tr>
</tbody>
</table>

Comments

Child Mean

<table>
<thead>
<tr>
<th>Peer</th>
<th>Peer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 on off t1 t2 T T- T+ P C C+</td>
<td>2 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>10 on off t1 t2 T T- T+ P C C+</td>
<td>11 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>19 on off t1 t2 T T- T+ P C C+</td>
<td>28 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>37 on off t1 t2 T T- T+ P C C+</td>
<td>46 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>55 on off t1 t2 T T- T+ P C C+</td>
<td>64 on off t1 t2 T T- T+ P C C+</td>
</tr>
<tr>
<td>73 on off t1 t2 T T- T+ P C C+</td>
<td>82 on off t1 t2 T T- T+ P C C+</td>
</tr>
</tbody>
</table>

TOTAL ON/TA = ______ / ______ = ______% ON/P = ______ / ______ = ______

39
### Setting Codes

<table>
<thead>
<tr>
<th>Setting Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Seatwork (ISW)</td>
<td>Students are required to remain at station or seat working independently</td>
</tr>
<tr>
<td>Teacher Directed Whole Class (TDWC)</td>
<td>Students are required to remain at station or seat taking notes, listening, or completing exercises as teacher lectures</td>
</tr>
</tbody>
</table>

### Behavior Codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Task (on)</td>
<td>Absence of any disruptive code</td>
</tr>
<tr>
<td>Passive off-task (off)</td>
<td>Eyes leaving material, the teacher, or any appropriate instructional stimuli for 3+ consecutive seconds during the 10-s interval.</td>
</tr>
</tbody>
</table>

**Target 1 (t1)**

**Target 2 (t2)**

**Ex. Verbal:** any instance of vocal noise that was not preceded by raising hand and receiving acknowledgment from teacher. **Ex. Motor:** out-of-seat, touching others

### Environment Codes:

- **Teacher Attention - Positive (T+)**
  - Physical contact: patting, holding arm or hand, sitting on lap.
  - Praise: verbal comments indicating approval
  - Facial expression: smiling, nodding

- **Teacher Attention - Negative (T-)**
  - Physical contact: grabbing, pushing, touching, shaking
  - Reprimand: critical comments indicating disapproval or redirection
  - Threats: “If-then” statements
  - Facial expression: frowning, “shhh”

- **Teacher Attention - Neutral (T)**
  - Academic Recognition: An instructional comment is made, “Are you done?”
  - Academic Inquiry: Calling on child for answer or input “What is the answer to...”
  - Nonacademic Comment: A general question or comment, “When did you come back from the office?”

- **Peer Attention (P)**
  - Positive, negative, or neutral attention, contact, or expression from peer

- **Classroom Consequence**
  - Delivery of a tangible/token positive (C+) or negative (C-) consequence as part of classroom mgmt. plan (e.g., checkmark, points)

### Functional Assessment

**LEVEL OF ASSISTANCE**

- Compare child to peer norms for:
  - Total Teacher Attention (T+, T-, T, C-, C+): Percentage of intervals during which teacher attention or classroom consequences occurred
  - Positive/Negative Ratio (T+, C+: T-, C-): No. of intervals during which positive attention occurred: No. of intervals during which negative attention occurred

### Descriptive Analysis

- Compare persistence or disruptive behavior (t1, t2) across two different setting events (ISW versus TDWC; reading versus math class) or two settings that vary aversive demand characteristics, such as task difficulty, type of required motor response, number of required responses, task novelty, duration of instructional session, rate of task presentation, task preference or choice, etc.

### Conditional Probabilities

- Review BOS: Given the occurrence of a behavior during a particular observation, what was the likelihood of it being followed by peer or teacher attention? *Followed-by* is defined as occurring within the same or next interval.

<table>
<thead>
<tr>
<th>Probability</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability of teacher attention, given persistence (On\TA)</td>
<td>#intervals marked On followed by any teacher attention #intervals marked On</td>
</tr>
<tr>
<td>Probability of peer attention, given persistence (On\P)</td>
<td>#intervals marked On followed by peer attention #intervals marked On</td>
</tr>
<tr>
<td>Probability of teacher attention, given target behavior (t1,t2\TA)</td>
<td>#intervals marked t1 or t2 followed by any teacher attention #intervals marked t1 or t2</td>
</tr>
<tr>
<td>Probability of peer attention, given target behavior (t1,t2\P)</td>
<td>#intervals marked t1 or t2 followed by peer attention #intervals marked t1 or t2</td>
</tr>
</tbody>
</table>

Appendix H

Verbal Forced-Choice Preference Assessment
Miami University School Psychology Program

Name:______________________________     Date:______________

You: Please read each question and circle the choice that best describes the child’s opinion.

1. Would you rather work on a…
crossword puzzle or Word search?   Crossword          Word search

2. Would you rather work on a…
Word search or Word scramble?    Word search          Word scramble

3. Would you rather work on a…
Word scramble or Sudoku?    Word Scramble          Sudoku

4. Would you rather work on a…
Sudoku or Crossword?     Sudoku          Crossword

5. Would you rather work on a…
Crossword or Word scramble?    Crossword           Word Scramble

6. Would you rather work on a…
Word scramble or Word search?    Word Scramble         Word Search

7. Would you rather work on a…
Word search or Sudoku?      Word Search           Sudoku

8. Would you rather work on a…
Sudoku or Word scramble?    Sudoku             Word Scramble

9. Would you rather work on a…
Word search or Crossword?   Word Search          Crossword

10. Would you rather work on a…
Crossword or Sudoku?        Crossword           Sudoku

11. Would you rather work on a…
Word scramble or Crossword?    Word Scramble        Crossword

12. Would you rather work on a…
Word search or Sudoku?   Word Search          Sudoku
Appendix I

WORD SEARCH Effort Statements

Good work! I can tell you are trying your best
Excellent Job! You must be working hard on this activity
Nice work! You are really trying to find those words
Awesome job! You are almost there, you are a hard worker
Great job! Your hard work is really paying off
I like your effort. You are really working hard to figure out where those words are.
Good work! You are really working hard to find those words
Excellent job! I am proud of your hard work
Awesome job! You are really working hard on that puzzle
Good work! You are putting a lot of effort into finishing that puzzle
Good work! I can tell you are trying your best
Excellent Job! You must have worked hard on this activity
Nice work! You are really trying to find those words
Awesome job! You are almost finished, you must be a hard worker
Great job! Your hard work is really paying off
I like your effort. You are really trying to figure out the word
Good work! You are putting a lot of effort into finding those words
Excellent job! I am proud of your hard work
Awesome job! I can tell that you are trying hard on that puzzle
Good work! You are putting a lot of effort into finishing that puzzle

SUDOKU Effort Statements

Good work! I can tell you are trying your best
Excellent Job! You must be working hard on this activity
Nice work! You are really trying to find those numbers
Awesome job! You are almost there, you are a hard worker
Great job! Your hard work is really paying off
I like your effort. You are really working hard to figure out where those numbers go.

Good work! You are really working hard to find those combinations

Excellent job! I am proud of your hard work

Awesome job! You are really working hard on that puzzle

Good work! You are putting a lot of effort into finishing that puzzle

Good work! I can tell you are trying your best

Excellent Job! You must have worked hard on this activity

Nice work! You are really trying to find those numbers

Awesome job! You are almost finished, you must be a hard worker

Great job! Your hard work is really paying off

I like your effort. You are really trying to figure out the rows of numbers

Good work! You are putting a lot of effort into finding those number combinations

Excellent job! I am proud of your hard work

Awesome job! I can tell that you are trying hard on that puzzle

Good work! You are putting a lot of effort into finishing that puzzle

CROSSWORD Effort Statements

Good work! I can tell you are trying your best

Excellent Job! You must be working hard on this activity

Nice work! You are really trying to figure out those words

Awesome job! You are almost there, you are a hard worker

Great job! Your hard work is really paying off

I like your effort. You are really working hard to figure out where those words go.

Good work! You are really working hard to fill in that puzzle

Excellent job! I am proud of your hard work

Awesome job! You are really working hard on that puzzle

Good work! You are putting a lot of effort into finishing that puzzle

Good work! I can tell you are trying your best

Excellent Job! You must have worked hard on this activity
Nice work! You are really trying to find those words
Awesome job! You are almost finished, you must be a hard worker
Great job! Your hard work is really paying off
I like your effort. You are really trying to figure out the word
Good work! You are putting a lot of effort into figuring out those statements
Excellent job! I am proud of your hard work
Awesome job! I can tell that you are trying hard on that puzzle
Good work! You are putting a lot of effort into finishing that puzzle

WORD SCRAMBLE     Effort Statements

Good work! I can tell you are trying your best
Excellent Job! You must be working hard on this activity
Nice work! You are really trying to figure out those words
Awesome job! You are almost there, you are a hard worker
Great job! Your hard work is really paying off
I like your effort. You are really working hard to figure out where those words go.
Good work! You are really working hard to fill in that puzzle
Excellent job! I am proud of your hard work
Awesome job! You are really working hard on that puzzle
Good work! You are putting a lot of effort into finishing that puzzle
Good work! I can tell you are trying your best
Excellent Job! You must have worked hard on this activity
Nice work! You are really trying to find those words
Awesome job! You are almost finished, you must be a hard worker
Great job! Your hard work is really paying off
I like your effort. You are really trying to figure out the word
Good work! You are putting a lot of effort into figuring out those statements
Excellent job! I am proud of your hard work
Awesome job! I can tell that you are trying hard on that puzzle
Good work! You are putting a lot of effort into finishing that puzzle

**WORD SEARCH Ability Statements**

Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are halfway there, you must be a natural at finding words
Nice Job! You must be smart to have found all those words
Nice job on that puzzle, you are really good at this
Great job! You are a talented word searcher
You are doing great! You are a natural at figuring out puzzles
Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are almost finished, you must be a natural puzzler
Nice Job! You must be smart to have found all those words
Nice job on that puzzle, you are really good at this
Great job! You are a talented puzzler
You are doing great! You are a natural at figuring out puzzles

**CROSSWORD Ability Statements**

Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are halfway there, you must be a natural at finding words
Nice Job! You must be smart to have found all those words
Nice job on that puzzle, you are really good at this
Great job! You are a talented crossword solver
You are doing great! You are a natural at figuring out puzzles
Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are almost finished, you must be a natural puzzler
Nice Job! You must be smart to have found all those words
Nice job on that puzzle, you are really good at this
Great job! You are a talented puzzler
You are doing great! You are a natural at figuring out puzzles

WORD SCRAMBLE Ability Statements
Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are halfway there, you must be a natural at finding words
Nice Job! You must be smart to have found all those words
Nice job on that puzzle, you are really good at this
Great job! You are a talented speller
You are doing great! You are a natural at figuring out puzzles
Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are almost finished, you must be a natural puzzler
Nice Job! You must be smart to have found all those words
Nice job on that puzzle, you are really good at this
Great job! You are a talented puzzler
You are doing great! You are a natural at figuring out puzzles

SUDOKU   Ability Statements

Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are halfway there, you must be a natural at finding numbers
Nice Job! You must be smart to have found all those numbers
Nice job on that puzzle, you are really good at this
Great job! You are a talented number searcher
You are doing great! You are a natural at figuring out puzzles
Nice Job! You’re a good puzzle solver
You are doing great! You have talent
Excellent job! You’re a natural
Wow! You must be really talented
Good work! You’ve gotten really far. You must be a natural
Excellent! You are almost finished, you must be a natural puzzler
Nice Job! You must be smart to have found all those numbers
Nice job on that puzzle, you are really good at this
Great job! You are a talented puzzler
You are doing great! You are a natural at figuring out puzzles