

*DETERMINING PRESCHOOLERS' PREFERENCES FOR
CHOICE-MAKING OPPORTUNITIES: CHOICE OF TASK
VERSUS CHOICE OF CONSEQUENCE*

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Individuals may prefer contexts with the option to choose between 2 reinforcing stimuli or between 2 tasks relative to contexts in which others select the same events. We evaluated children's preferences for conditions characterized by (a) the opportunity to choose between tasks and (b) the opportunity to choose between putative reinforcers delivered following the completion of a task relative to no-choice and no-reinforcement control conditions. Three of 4 participants preferred the consequence-choice condition; the task-choice condition was no more preferred than the no-choice condition in any case.

Key words: choice-making opportunities, choice, preference assessment, preschool children

Individuals tend to prefer conditions in which an opportunity exists to choose between reinforcing stimuli relative to conditions in which similar or identical stimuli are delivered without the opportunity to choose (e.g., Brigham & Sherman, 1973; Fisher, Thompson, Piazza, Crosland, & Gotjen, 1997; Thompson, Fisher, & Contrucci, 1998). For instance, given a choice between completing a worksheet that resulted in access to one red jelly bean or completing a different worksheet that resulted in a choice of one from among five red jelly beans, five of six preschool children selected the choice worksheet most frequently (Tiger, Hanley, & Hernandez, 2006). In applied studies, the preparations for studying choice-making opportunities have usually differed from more basic or translational studies in two important ways. First, choices are commonly offered between tasks or activities (e.g., Romaniuk et al., 2002) instead of or in addition to the consequences offered for completing those tasks. Second, those choices have differed qualitatively from each other (e.g., choosing a

spelling task or a grammar assignment in Powell & Nelson, 1997).

Some studies (e.g., Dunlap et al., 1994; Fisher et al., 1997) attempted to control for the effects of differential preferences by yoking the delivery of no-choice selections to recent choice selections. That is, participants made selections between different potential reinforcers (e.g., pizza or potato chips) or tasks (e.g., spelling or a word search) during choice conditions. The experimenter recorded the order of these selections and then delivered these same reinforcers or tasks during a subsequent no-choice condition. Although these conditions are nominally equal, the choice-making condition allows greater sensitivity to momentary fluctuations in the value of reinforcers and favors choice selections. For instance, a child-selected book read during a choice condition would likely be less valuable when presented again during a no-choice condition a few days later (e.g., the procedure in Dunlap et al.). An alternative control condition described by Thompson et al. (1998) and Tiger et al. (2006) involved providing identical consequences for choice and no-choice conditions (e.g., one red jelly bean during no-choice conditions or one of five red jelly beans during choice conditions). The value of task-choice conditions has not been evaluated with such a stringent control condition.

This study was conducted as an undergraduate honors thesis for the first author.

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doi: 10.1901/jaba.2010.43-503

Although task-choice interventions have been associated with increased academic engagement and decreased problem behavior, these outcomes may be due to qualitative differences in the chosen materials (i.e., individuals might engage in preferred activities and refrain from problem behavior during that activity regardless of whether the activity was selected by the child or the experimenter). The purpose of the current study was to assess children's sensitivity to task-choice and consequence-choice conditions when all qualitative features of those choice conditions were held constant. We did so by assessing children's preferences for task-choice and consequence-choice conditions while equating the task and the consequences arranged across each condition to isolate the impact of the choice-making opportunity.

METHOD

Participants and Setting

Emma, Sally, Ryan, and Paula attended a university-affiliated preschool. Each participant was a typically developing 4- or 5-year-old who spoke in complete sentences and followed multistep instructions. We conducted one to three sessions daily, typically 3 days per week, in an unused hexagon-shaped alcove, approximately 3 m in diameter, with child-sized tables and chairs to one side, located outside the children's classrooms.

Procedure

We conducted a paired-item preference assessment (Fisher et al., 1992) in which every food item was offered in a pairing with every other food item. We included the two or three items selected in the greatest percentage of trials as putative reinforcers in the choice-making preference assessment. We also conducted a color preference assessment (Heal, Hanley, & Layer, 2009) to minimize color bias in our choice-making preference assessment by identifying similarly preferred colored index cards and randomly assigning those cards to

conditions as initial-link stimuli in a concurrent-chains arrangement.

We designed a modified concurrent-chains procedure as a hybrid of the procedures described by Hanley, Piazza, Fisher, Contrucci, and Maglieri (1997) and the paired-item assessment described by Fisher et al. (1992). Specifically, we arranged four conditions, each associated with different-colored index cards during the initial link of the chain. Each session consisted of six trials, with each initial link paired with every other initial link in a random order once per session. During each trial, we presented the participant with two index cards and prompted selection of one card to complete the initial link of the concurrent chain. We then prompted the participant to complete an academic task that resulted in the delivery of an edible item (except as otherwise noted) and praise, completing the terminal link of the concurrent chain. We held the edible items delivered for task completion constant within each session but alternated them across sessions (e.g., fruit snacks in Session 1, crackers in Session 2).

During the task-choice terminal links, we presented an array of five identical academic worksheets (e.g., same pattern-completion problem). Following a selection, we prompted task completion using a graduated vocal, model, and physical prompting hierarchy and delivered an edible item when the child completed the task. During the consequence-choice terminal link, we presented one academic worksheet of the same task used in the task-choice terminal link (e.g., a pattern-completion problem). We prompted task completion and presented an array of five identical edible items (e.g., five fruit snacks identical in color and size) following task completion. During the no-choice terminal links, we provided a single worksheet of the same academic task as presented in the task- and consequence-choice links and prompted task completion. We provided a single edible item that was identical

to those delivered during the task-choice and no-choice terminal links contingent on task completion. Thus, the edible items and tasks during the task-choice, consequence-choice, and no-choice terminal links were identical; only the choice opportunity varied. During the control terminal link, we presented a single academic worksheet identical to those of the other conditions and prompted task completion. No edible items were delivered for task completion.

We presented instructions prior to the first trial each day to facilitate discrimination of the consequences associated with each colored card. For example, the experimenter said, "If you select the pink card, you will solve this problem, but you will not receive a snack" (i.e., control condition). "If you select the blue card, you will solve this problem, and you will receive this snack" (no-choice condition). "If you select the yellow card, you may choose the problem you would like to solve; then you will receive this snack" (task-choice condition). "If you select the green card, you will solve this problem; then you may select one snack from these five you would like to receive" (consequence-choice condition). We then instructed participants to select each colored card once to experience the terminal-link consequences associated with each initial-link index card. Finally, the experimenter said, "Choose the card you like."

Measurement and Interobserver Agreement

Each trial consisted of an initial-link selection, defined as pointing to or picking up the index card corresponding to one of the conditions, and a terminal-link task performance, defined as completing a task following a vocal, model, or physical prompt. A second independent observer simultaneously scored initial- and terminal-link responding. We calculated agreement by comparing both observers' records on a trial-by-trial basis. We defined agreements as both recorders scoring the same initial-link selection and terminal-link task performance in an interval. We then summed the total number of trials in agree-

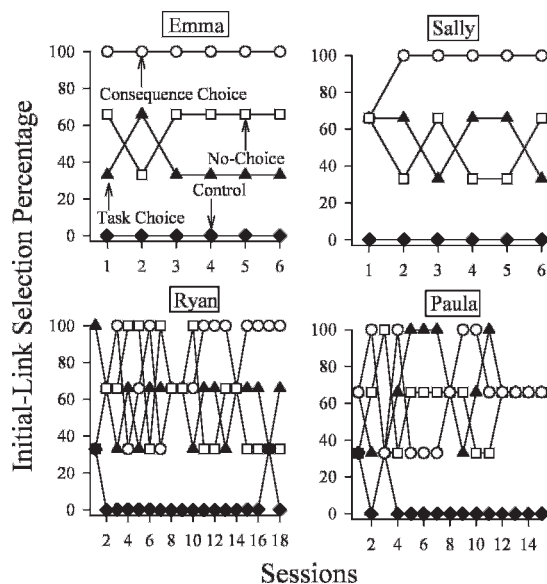


Figure 1. Initial-link selections during the choice-making preference assessment for Emma, Sally, Ryan, and Paula.

ment, divided the sum by the total number of trials, and converted the ratio to a percentage. We assessed interobserver agreement during a minimum of 67% of sessions with mean agreement of 99% across participants (range, 97% to 100%).

RESULTS AND DISCUSSION

Figure 1 displays results of the choice preference assessment as the percentage of trials in which participants selected each initial link during each session. Emma selected the consequence-choice condition at every opportunity and never selected the control condition. She selected the no-choice condition on over half of opportunities ($M = 60\%$) followed by the task-choice condition ($M = 38\%$). Sally also selected the consequence-choice condition most frequently ($M = 94\%$) and never selected the control condition. We did not observe a clear preference between the task-choice ($M = 55\%$) and no-choice conditions ($M = 49\%$). Although Ryan's preferences were less robust than Emma's and Sally's, a similar pattern emerged.

He selected the consequence-choice condition most frequently ($M = 76\%$) and the control condition rarely ($M = 3\%$). No differentiation emerged between task-choice ($M = 59\%$) and no-choice ($M = 59\%$) conditions. Paula did not demonstrate any systematic preferences across consequence-choice ($M = 66\%$), task-choice ($M = 68\%$), and no-choice ($M = 59\%$) conditions, with minimal selection of the control condition ($M = 3\%$). Participants completed each terminal-link task following a vocal or model prompt; a physical prompt was never necessary.

The results of these preference assessments are similar to previous research that has demonstrated children's preference for choice-making opportunities (e.g., Brigham & Sherman, 1973; Tiger et al., 2006), but extend this literature by delineating children's preferences for variations of choice-making arrangements. Specifically, three of the four children preferred the consequence-choice condition to all others, and the task-choice condition was no more preferred than the no-choice condition for any participant. The second of the above findings may seem at odds with prior studies that found beneficial effects of choice of task; however, our task-choice condition differed from prior studies in an important way. Prior studies included tasks that had at least minor variations in difficulty or quality, and those task differences may well account for the beneficial effects of choice, leaving the impact of choice making alone unclear. In addition, our dependent measure (i.e., preference) differs from prior studies (i.e., engagement, problem behavior). Although our participants did not select the task-choice option any more often than no choice, there might have been beneficial effects on their performance that we did not assess (e.g., greater sustained engagement, decreased problem behavior); thus, this remains an important area for additional research.

The choice-making conditions arranged in the current study are unlike those implemented

in typical classroom or clinical environments. That is, we used identical items and tasks to isolate the effects of choice making as our independent variable. We do not recommend providing choices between identical items or tasks in practice (i.e., a choice between necessary but varied tasks would likely produce better clinical effects than choices between identical tasks). The current study is one step towards understanding the behavioral mechanisms active in the effects of choice-making interventions and should stimulate additional research and more refined practice in this area. Future research may consider systematically evaluating the independent and combined effects of providing choices and preferred items to promote desirable behavior.

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Received June 30, 2009

Final acceptance December 1, 2009

Action Editor, Linda A. LeBlanc