**Objective**

To describe preschool children’s decisions across 4 game play sessions, overall and by sex.

**intervention**

The study game (Figure 1) was developed in an iterative manner, incorporating insights from the self-regulation literature and play-testing sessions with a separate sample of 10 children.

The game has a superhero theme with the goal to collect the most gems. On select spaces, children must decide whether to take “a sparkly gem now, or a sidekick who can help you later.” Gems are meant to tempt the children, but sidekicks can be traded in later for more gems. Choosing sidekicks instead of gems helps the child win, reinforcing delay of gratification skills.

During Session 3 of game play, children are given a liner for the trays used to collect gems and are told that they should “build the power crystal” with their gems. Children now have another component to tempt them to choose gems. This component adds to the challenge of delaying gratification and is intended to further build these skills.

**Results**

While children played the study game (Figure 2), a researcher viewed a live video of game play and recorded the child’s decision each time s/he was to choose a gem or sidekick. The percent of children choosing a sidekick (i.e. the delayed reward) during the initial decision of each round of game play was calculated overall and by sex.

- 36% of children chose a sidekick as their first decision, while 68% did so in the first decision of Session 2, demonstrating initial learning.
- 48% of children chose sidekicks during the first decision of Session 3, suggesting effectiveness of the added tray liners in increasing the temptation of selecting the immediate reward (gems). After this, selection of sidekicks increased again.
- Decision patterns differed by sex (Figure 4):
  - Girls were quicker to consistently increase their selection of sidekicks as game play progressed.
  - Girls were quicker to increase selection of sidekicks, moving from 20% selecting sidekicks in their initial decision in their first round of game play to >60% in the next 3 rounds. >80% of both boys and girls selected sidekicks by Session 4.

**Discussion**

- Findings provide evidence that this board game can promote selection of delayed (versus immediate) rewards.
- Introduction of tray liners appeared to challenge and then benefit delay skills, consistent with research showing that incremental challenges can build these skills.
- Findings also suggest that patterns of decision-making may differ by sex, although both boys and girls increased selection of sidekicks from the beginning to end of the study.
- Future directions include testing effects of game play on delay of gratification using a separate lab task and a control group and exploring application of the game in real-world settings.

**Participants**

- 27 4-to-5-year-old children (Table 1) played the study game in the laboratory over 4 weeks

**Background**

- Young children’s delay of gratification, or the extent to which they can resist the temptation of an immediate reward and wait for a later reward, predicts many positive outcomes from academic achievement to maintaining a healthy weight.
- The goal of this analysis is to describe children’s decision-making in the context of a board game designed to promote delay of gratification.