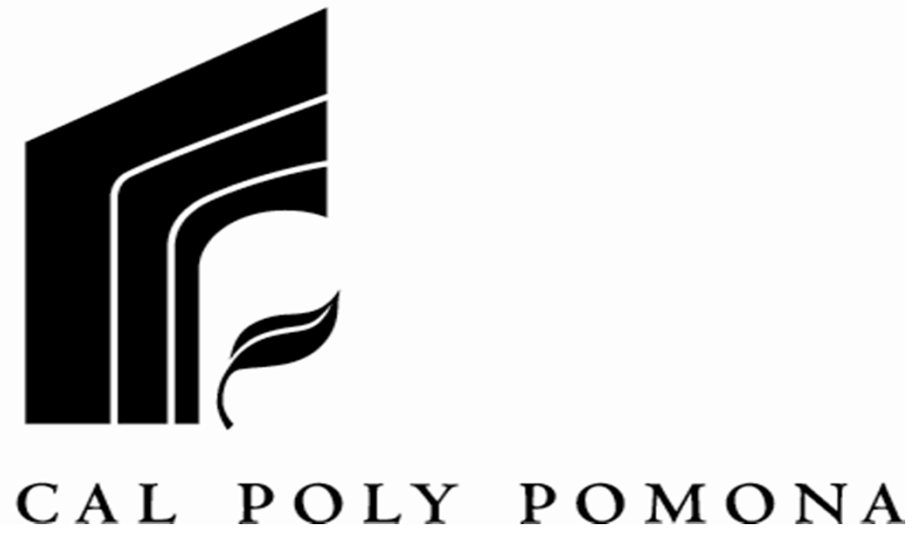
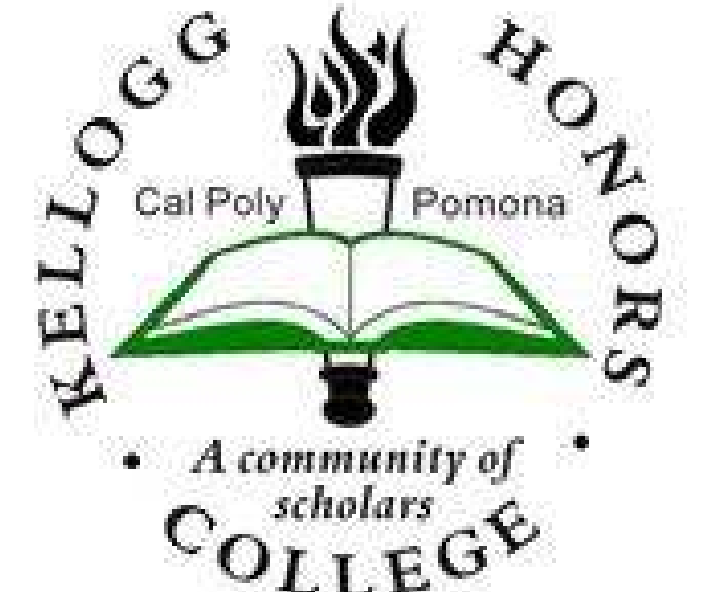


# The Role of Imagination and Detail Generation on Imagination Inflation



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## Introduction

There is an extensive amount of research showing that imagining childhood events subsequently results in people being more likely to state the events happened to them compared to nonimagined events (Garry, Manning, Loftus, & Sherman, 1996; Heaps & Nash, 1999; Mazzoni & Memon, 2003; & Von Glahn, Otani, Migita, Langford, & Hillard, 2012). This phenomenon has come to be known as *imagination inflation*. This phenomenon is said to happen because of source attribution errors and source-monitoring errors (Garry et al., 1996; Libby, 2003; Bernstein, Godfrey, Davison, & Loftus, 2004).

Research has shown that when participants are exposed to the Life Events Inventory (LEI) — in which they are asked to rate their confidence whether an event happened to them before they were 10-years old (1 *definitely did not happen* and 8 *definitely did happen*)—they inflate their confidence that they experienced events in their past. The imagination of the events, or other types of exposure (i.e. unscrambling, paraphrasing, or explaining the event), paired with rating how certain one is that the event occurred in childhood, results in the participants believing the event must have happened in childhood, thus showing an inflation in their rating of the events. In short, people who imagine childhood events tend to become more confident that they experienced those events as a child.

Studies that use the traditional LEI paradigm have participants answer questions about how the event could have happened, while some others have the participants generate details about how the event could have happened. Studies that had participants generate details about the event showed inflation; therefore, should imagination still be regarded as important or is imagination superfluous? The present experiment is intended to investigate the contributions imagination and generating fictitious details about childhood experiences will have on confidence inflation.

## Method

### Participants:

Forty-six participants completed Phase 1 of this experiment. Thirty-three of them returned and completed Phase 2 (Mean age = 20.30 years; SD = 2.980).

Six participants were excluded from the analyses because they did not answer one or more of the critical items in Phase 1 nor Phase 2, or they rated the impossible item (“Played for the Los Angeles Dodgers”) with a confidence rating greater than 1.

### Materials:

A 31-item Life Events Inventory (LEI) was administered during the first session. The LEI asked the participants how certain they were that each of the events (or a very similar event) did or did not happen to them prior to the age of 10. For each event, participants indicated how certain they are that the event happened to them by selecting a number on an 8-point likert scale—with 1 (*definitely did not happen*) to 8 (*definitely did happen*).

SurveyGizmo recorded all of the data for the experiment.

### Procedure:

Self-paced, the participants filled out the initial LEI (pretest), followed by a 5-minute city-state distracter task before moving on to the imagination/details generation phase.

Participants were randomly assigned to three conditions. Some participants simply imagined the target items (*Imagination-only*). They were presented with an item (e.g. “Opened a bank account”) and imagined the item for 30-seconds. They then rated the vividness of the item and then proceeded to imagine the same item for 2 minutes and 30 seconds. This process was the same for each critical item.

Others imagined the items before generating three details about the items (*Imagination and details condition*). The imagination and details condition involved imagining the item for 30 seconds before generating three details for 2 minutes and 30 seconds. During the detail generation, the participants were instructed to write a complete sentence for each item.

Lastly, others were asked to only generate three details for the items (*Details-only condition*). The details only condition, however, did not include any imagination. The participants in this condition were presented one critical item at a time and were asked to generate three details about the event for 3-minutes.

Furthermore, about half of the participants completed those tasks for subset A items (“Opened a bank account,” “Had your hand in a mouse trap,” and “Saw a house burn down”), whereas the other half of the participants completed the tasks for subset B items (“Won a blue ribbon at a fair,” “Had your house robbed,” and “Saw lightning hit a tree”). Therefore, those in subset A had subset B items serve as control items and those in Subset B had Subset A items serve as control items.

Next, the participants completed the Visual Imagery Questionnaire (Marks, 1973) and the Dissociative Experiences Scale (Bernstein & Putnam, 1986) for the rest of session one.

One week later, the participants returned for the second session. During the second session, the participants completed the LEI for the second time (posttest), followed by a debriefing.

## Results

The results for the imagination-only condition are shown in Figure 1.

Figure 2 shows the change in confidence ratings from Phase 1 to Phase 2 for the imagination and details generation condition.

The LEI confidence ratings for the details-only condition is shown in Figure 3.

The LEI ratings from Phase 1 and Phase 2 were analyzed to determine whether there was an increase in confidence ratings across the phases. A 2 (Phase: 1 & 2) x 2 (Target: Target items & nontarget items) x 3 (Processing: Imagination only, imagination and details, & details only) mixed-design ANOVA yielded no significant results for neither phase,  $F(1,31) = 0.246, p = .624, \eta^2 = .008$ ; nor target,  $F(1,31) = 0.197, p = .660, \eta^2 = .006$ ; Phase x Processing,  $F(2, 31) = 0.723, p = .493, \eta^2 = .045$ ; Target x Processing,  $F(2, 31) = 3.141, p = .057, \eta^2 = .168$ . The Phase x Target interaction should have been significant, but it is was not,  $F(1,31) = 0.913, p = .347, \eta^2 = .029$ . Moreover, the Phase x Target x Processing interaction was not significant,  $F(2, 31) = 1.256, p = .299, \eta^2 = .075$ .

Figure 1: Imagination-only

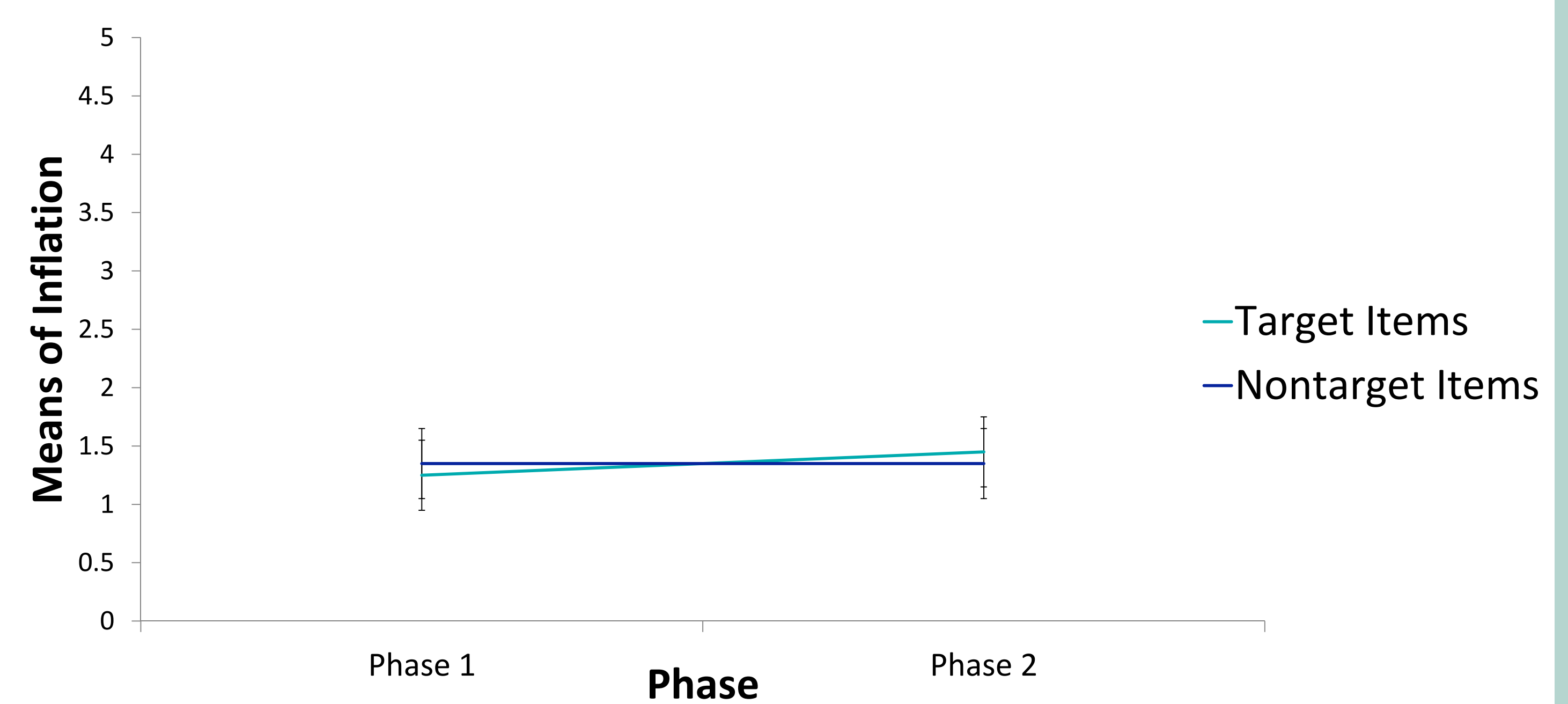


Figure 2: Imagination and Details

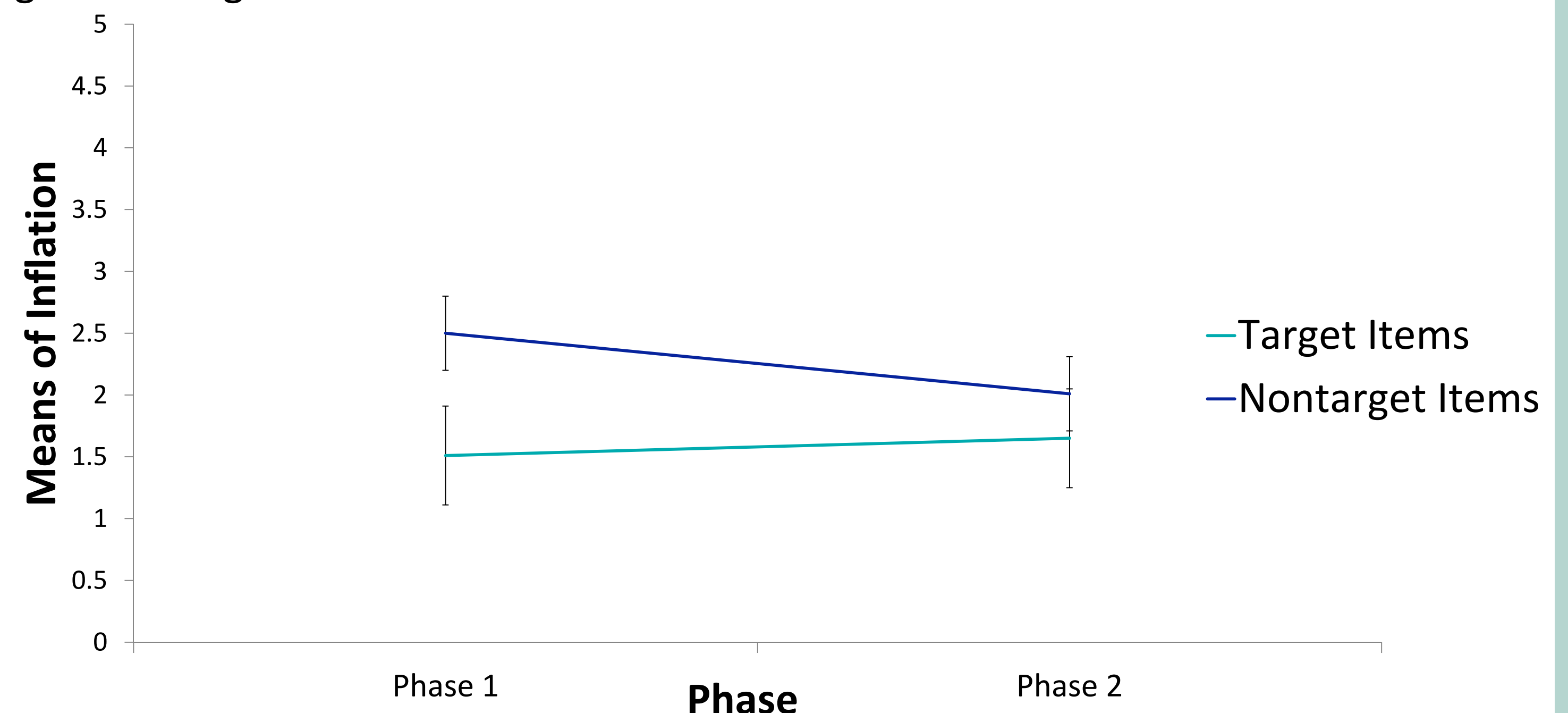
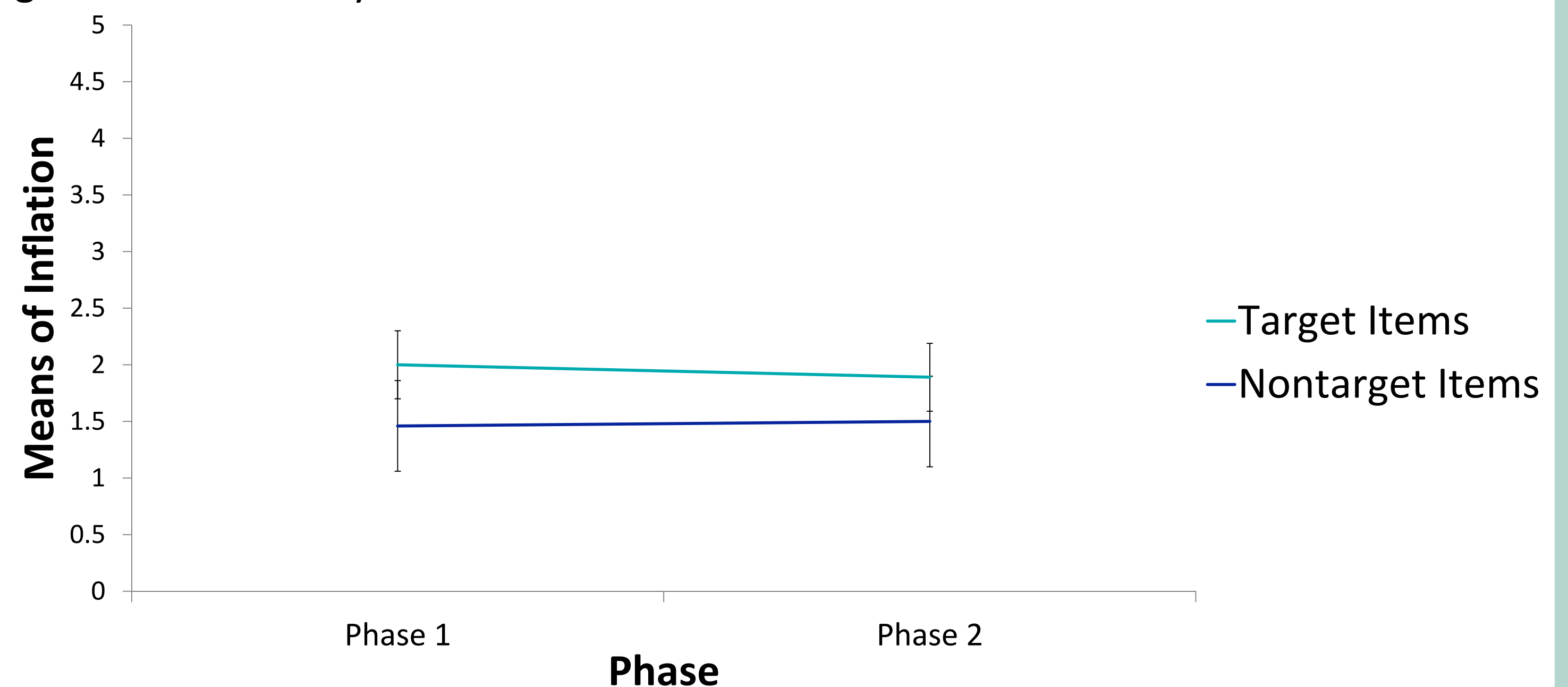


Figure 3: Details-only



## Discussion

The overall purpose of the present experiment was to determine the contribution both imagination and detail generation has on confidence inflation. Specifically, we wanted to investigate if imagining and details generation equally contribute to confidence inflation, if so, then the imagination and details generation condition should show the greatest amount of confidence inflation. Further, if imagination alone does not contribute to confidence inflation, then it is expected the people in the imagination-only condition will have little to no confidence inflation. Nonetheless, our results did not show a significant inflation effect in any of the conditions. Surprisingly, the results show a modest inflation of LEI ratings for the imagination-only condition, the inflation for these items was very small and not significant. The imagination-only condition was suspected to have the weakest inflation scores compared to the other conditions. Furthermore, those who were in the details-only condition actually showed a tendency to deflate their posttest LEI ratings.

These results show a failure to replicate previous research using imagination (Garry et al., 1996; Heaps & Nash, 1999; Mazzoni & Memon, 2003; & Libby, 2003). These studies provide evidence that imagining critical LEI items would result in the participants inflating their confidence ratings for the items imagined. Further, according to the findings of Von Glahn et al. (2012), generating details about the items should have resulted in a discernible confidence inflation; however, the results do not replicate their study.

Perhaps the results do not yield significant findings because our sample size was too small. The results might change with a larger sample size. Due to such a small sample size, the confidence ratings provided by the participants could skew the data because outliers are more prominent.