

# Do Guardian Characteristics Impact Children's Interaction with Museum Exhibits?

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## Introduction

- This poster describes a project conducted as part of a non-credit seminar (DeVenture – Developmental Enrichment Venture) for students in the Psychology Developmental Concentration.
- Students are learning naturalistic observation skills through the process of operationalizing variables and developing a coding scheme and instrument related to parent-child interactions at the museum.
- Developmental psychologists are interested in how children learn in a variety of social contexts.
- Museum exhibits are designed to promote interaction with materials and prompt conversations to support learning.
- The purpose of the present study was to determine whether there was a relationship between guardian characteristics and how children interacted with the Sun, Earth, and Moon museum exhibit at the Carnegie Science Center.

## Research Questions

1. Is there a relationship between the guardian's gender and the child's on task or off task behavior?
2. Is there a correlation between the guardian's age and the quality of the child's interactions?

## Photos of Observation



## Method

### Sample

149 children who were observed at the Carnegie Science Center. Some of the participants had missing values on relevant variables

### Demographics of Sample:

- Research question 1: n=116
- Research question 2: n=124

### Preliminary Analyses

Do ed\_ontask and ne\_offtask measure the same thing?

- $r(147) = -.700$
- They are significantly correlated but are not the same thing
- We chose to examine the association between gender and each variable separately

Do all variables measuring quality of interaction form a reliable scale?

- $\alpha = .538$
- The reliability result indicates these should not be used as the same scale
- We chose to look at three of the items individually ed\_sustained, ed\_ap\_phy, ed\_interact\_others\_exb

### Research question 1

- Guardian's gender was measured with gender\_adult (male, female, other)
- On task was measured with ED\_ontask

Behaviors that were coded as on task included focused interaction with the station, sustained interest in the station, and appropriate physical interaction with station.

- Off task was measured with NE\_offtask

Behaviours that were coded as off task included running, rapidly switching between stations, and playing with others with no interest in station.

### Research question 2

- Guardian's age was measured with age\_adult (young, mid, older)
- Quality of interactions was measured with, ED\_ontask, ED\_ap\_phy, ED\_sustained, ED\_interact\_others\_exb, ED\_unrelated\_int

## Results

Is guardian's gender associated with off task behavior?

- X squared (2, N=116)= 4.443 ns

Is guardian's gender associated with on task behavior?

- Xsquared (2, N=116)= 2.44 ns

Is there a relation between guardian's age and the quality of the child's interactions?

- We ran a one-way ANOVA between age\_adult and each of these three variables: ED\_sustained, ED\_ap\_phy, and Ed\_interaction\_others\_exb to examine the effect of guardian age on the quality of the child's educational interactions with the exhibit. All of these analyses were non-significant.

## Discussion

- There is no relation between guardian's gender and whether the child was on task.
- Guardian's age is not related to these aspects of the quality of the child's interaction.
- The measurement of guardian's gender and age was based on the individual's appearance and could have been incorrect.
- The scores used to measure the aspects of educational interactions were dichotomous, just 1 or 0. These scores did not capture continuous variation, so they may not have been fine grained to show an effect.

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