
TITLE OF INFORMATION COLLECTION:

Test Trial Focus Groups on Climbing Behavior of Children

The general objective of this project is to provide the U.S. Consumer Product Safety Commission (CPSC) with data on the strategies that children employ while climbing furniture; children's assumed positions based on body dimensions and force exertions; and parents' perceptions of their children's ability and interest in climbing on furniture.

Test Trial focus groups will investigate children's experience and interest in climbing; items they climb on the house; their functional and play behaviors with dressers, and parents' perceptions and observations of these behaviors. The test trial will also employ a hands-on interaction with a test fixture representative of a dresser, permitting child participants to interact with the test fixture. Child's body measurements and force exertions while climbing will be recorded. All data collection will be performed by the University of Michigan in compliance with the Privacy Act and Protection of Human Subjects requirements.

PURPOSE

From 2015 through 2017, an estimated 28,300 people were treated annually in U.S. hospital emergency departments for product instability or tip-over injuries related to televisions, furniture, and appliances. The highest number of instability- or tip-over-related injuries were associated with furniture, with a national annual average estimate of 19,100 injuries (68 percent). Children younger than 10 years of age are associated with the largest number of product instability or tip-over injuries for televisions, furniture, and appliances total. Between 2000 and 2017, a total of 110 children died due to furniture falling on them.¹

CPSC staff has been working to mitigate the tip-over risk from clothing storage units (CSUs). CPSC launched an educational campaign (Anchor It!) in 2015, conducted several voluntary recalls of CSUs, developed a briefing package in 2016, and issued an advance notice of proposed rulemaking in 2017. CPSC worked with stakeholders to develop and revise the ASTM F2057, *Standard Safety Specification for Clothing Storage Units*. The intent of the ASTM standard is to reduce hazards associated with tip over of free-standing CSUs. The current test methods include testing the CSU empty and without a tip-over

¹ Suchy, A. (2018). Product Instability or Tip-Over Injuries and Fatalities Associated with Televisions, Furniture, and Appliances: 2018 Report. US Consumer Product Safety Commission, Bethesda MD.

restraint: for the first test, all the doors and drawers of an unloaded unit are opened. In the second test, each drawer or door is opened one at a time, and a test weight totaling 50 lbs. is applied over the front of each drawer or door. The unit should not tip over under these test conditions to comply with the standard. After CPSC staff identified a fatal incident involving a CSU that complies with the standard, CPSC staff and the ASTM subcommittee began to investigate the specific types of scenarios that may lead to tip over, but are not adequately reproduced with the current test methods in the standard.

Staff is interested in finding out the tactics that children employ while climbing furniture to improve the test procedures that CSUs are subjected to, based on ASTM F2057, *Standard Safety Specification for Clothing Storage Units*. The current study seeks to gather opinions from parents and children on the child's climbing behaviors, and observe and measure forces of children while they climb on a simulated dresser test fixture. Results of this study, along with CPSC staff's review of incident scenarios that led to tip overs, and engineering analysis of factors influencing tip over, such as flooring surface, loaded vs. unloaded drawers, and number of open drawers with loads, will be used to develop new test requirements to reproduce scenarios that are critical to determining the stability of CSUs.

The contractor will conduct test trial focus groups with recruited parent-child pairs. The focus groups will employ a hands-on interaction with a simulated dresser test fixture. Observing the children as they interact with the fixture will enable researchers to identify strategies used by the children to climb on furniture and their positions, as well as their force exertions. Anthropometric data collected from the child will enable researchers to determine whether body dimensions and weight have an influence on climbing behavior.

In addition to the hands-on interaction with a simulated dresser test fixture, the contractor will conduct a small focus group (no more than three participants at a time), facilitating discussions that will address the following topics:

- Children's interest in climbing and climbing behavior experience
- Description of their strategies when attempting to climb
- Child's access to clothing storage units in the home
- Child's interaction with clothing storage units and similar furniture items in the home.

At the conclusion of the test trial focus groups, the contractor will develop a report that summarizes the findings. The information gathered will be used to make recommendations on developing

alternative scenarios that simulate children’s climbing strategies so that CSUs are tested under realistic conditions.

DESCRIPTION OF RESPONDENTS

The recruitment goal is to identify 24 child-parent pairs with children between the ages of 18 months and 5 years old.

Participant Recruitment

Participants will be recruited using a variety of means, including online ads, the University of Michigan website for study participants (<http://UMHealthResearch.org/>), posters and flyers at local elementary schools (seeking siblings of students) and daycare centers, in addition to leveraging parents/caregivers of study participants to communicate through their networks.

The contractor shall recruit four participants in the age range of 18-23 months, 12 participants in the age range of 24-47 months, and eight participants in the age range of 48-71 months. These numbers have been derived after considering children’s capability and motivation to climb, how much is already known, and practicality. The critical aspect of the participant recruitment is to get a range of behaviors of interest for a diverse range of body sizes. CPSC staff was able to locate various videos uploaded online demonstrating how children climbed or interacted with household items including clothing storage units and kitchen countertops. The contractor will measure the forces resulting from interactions determined based on videos as well as from interactions that the child or parent mentions or demonstrates during the study.

Gifts or Payments

Is an incentive (e.g., money or reimbursement of expenses, token of appreciation) provided to participants? [X - \$40] Yes [] No

BURDEN HOURS

Category of Respondent	No. of Respondents	Participation Time	Burden
Focus Group Participants	48	120 minutes per participant	96 hours

FEDERAL COST: The estimated annual cost to the federal government is \$89,992.

Total estimated cost to the government for conducting the data collection is as follows:

Number of Participants	48
Total estimated cost of conducting the study	
\$89,992	
Cost per completed Participant	\$1,875

This estimate is based on the total cost of the awarded research contract, divided by the specified number of completed participants.