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## **Human Factors Case Study of Child Product Safety Test Approach through Long Term Observations of Live Infant Interaction**

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**Abstract:** This novel observational study concentrated on a single infant over a prolonged period of time to analyze whether the three-point harness system adequately restrained the child within a portable infant recliner product when used in accordance with product instructions. This methodology allowed for repeated observations of how an infant's increasing capabilities as well as familiarity with a product can affect changes in behavior and product interaction. Juvenile products without specific safety standard requirements can benefit from this safety evaluation approach, where a Go/No-Go Criterion was developed for the specific product features to be evaluated. This Criterion was assessed through the use of a live child subject, which provided more accurate body movements and behavior than mechanical simulation testing or use of a dummy. This work contributes usability testing information regarding infants under six months of age to the existing published literature that mostly includes testing with older children.

*Keywords:* Human Factors, Child Product, Safety Test