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## The Effect of Mental Demand on Body Postures

Rodrick Adams

Valentina Niño

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Adams, Rodrick and Niño, Valentina, "The Effect of Mental Demand on Body Postures" (2023).  
*Symposium of Student Scholars*. 248.

<https://digitalcommons.kennesaw.edu/undergradsymposiumksu/spring2023/presentations/248>

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Abstract

## **The Effect of Mental Demand on Body Postures**

Undergraduate Student: Rodrick Adams

Research Mentor: Dr. Valentina Niño

How we perceive our work has a profound relationship with how our body reacts to help facilitate the performance of our tasks. This is an observational study of the experiment in which participants performed tasks under four different conditions (baseline, interruptions, time, and alarm) and used NASA-TLX (NASA- Task Load Index) scores to assess their mental workload for each condition across six dimensions: mental demand, physical demand, temporal demand, effort, performance, and frustration level. We juxtaposed their NASA-TLX score with corresponding REBA (Rapid Entire Body Assessment) scores while standing and RULA (Rapid Upper Limb Assessment) scores while sitting to determine the effect of the perceived workload on their respective body postures. The results of the experiment proved that the higher the perception of the task, measured by the NASA-TLX score, the more of an effect it has on the body postures. The preliminary discoveries of the observed data found that body postures were most affected by the condition in which alarms were applied for both sitting and standing activities. However, when the participants were grouped by sex, there were noticeable differences in which dimension had the most substantial effect on RULA and RULA scores. This study seeks to understand the most robust relationship between mental workload dimensions and body postures.