Word Frequency in the Proceedings of the International Annual Meeting of the Human Factors and Ergonomics Society (2021)

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BACKGROUND:
- The field of human factors has experienced growth and change over the years
- Much of this research is publicized and disseminated through lectures, posters, panels, demonstrations, and symposiums held at the HFES Annual Meeting.
- Often, research presented at the HFES Annual Meeting has been conducted recently, and is likely to be representative of ongoing trends

RESEARCH QUESTION:
- What can we learn about current human factors research based on word frequency in the titles of the HFES Annual Meeting Proceedings from 2021?

METHOD:
- Data was collected from the *Proceedings of the International Annual Meeting of the Human Factors and Ergonomics Society, Vol. 65, Issue 1*
- Titles were collected through a web-scraping method
  - Beautiful Soup is a Python package used to parse HTML text
- Beautiful Soup scraped data from the following website: http://journals.sagepub.com/toc/proe/65/1
- A Python data analysis library, Pandas, was used for further analysis.

Popular words in proceedings titles include "performance", "task", "learning", "robot", and "user."

RESULTS:
- A total of 351 titles were collated from the HFES Annual Meeting Proceedings
- This combined text resulted in 32,385 words for review
- The following words appeared the most frequently:
- *Human (n = 48)*
  - *System (n = 38)*
  - *Effect (n = 34)*
  - *Study (n = 32)*
- While most frequent, these words are common to our field and not very meaningful
- The following words may reveal more about current human factors research:
  - *Performance (n = 28)*
  - *Task (n = 24)*
  - *Learning (n = 21)*
  - *Robot (n = 21)*
  - *User (n = 21)*

DISCUSSION:
- The most frequently used words may provide insight as to the current research being done within the field
- Students may benefit from seeing the areas of research that are popular
- Researchers may get a glimpse of popular work being done outside of their own areas of interest
- Industry practitioners may discover new opportunities for collaborations with academic institutions in these areas

CONCLUSION & FUTURE WORK:
- Based on frequency of word appearance, we can garner insights about popular work being currently done in the field of human factors
- Future work will compare changes in word frequency over time, gain insights around author collaborations and affiliations, and perform statistical analyses to determine differences between years.

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