

Publicly Shared Photos of Children and Privacy Implications

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Introduction

“97% of Facebook-using mothers share photos of their children on social media”

Most social media sites scrub meta data. However, sensitive information may be revealed from content of the photos.

This project is concerned with analyzing the privacy risks associated with posting pictures of children on social media and privacy awareness of parents.

Materials and methods

Developed a tool to analyze images.

First Phase (Instagram Public Profile Analysis)

Analyzed Instagram public profiles with kids

Second Phase (Pilot Study – Survey)

- Analyzed images posted by participants.
- Conducted surveys to:
 - analyze accuracy of the inferences
 - and determine privacy awareness of participants

Sample Survey

Form description

Inferences

- You have a son, a daughter, and a very young child
- The names of your children are ***, ***, ***
- You live / used to live at *****

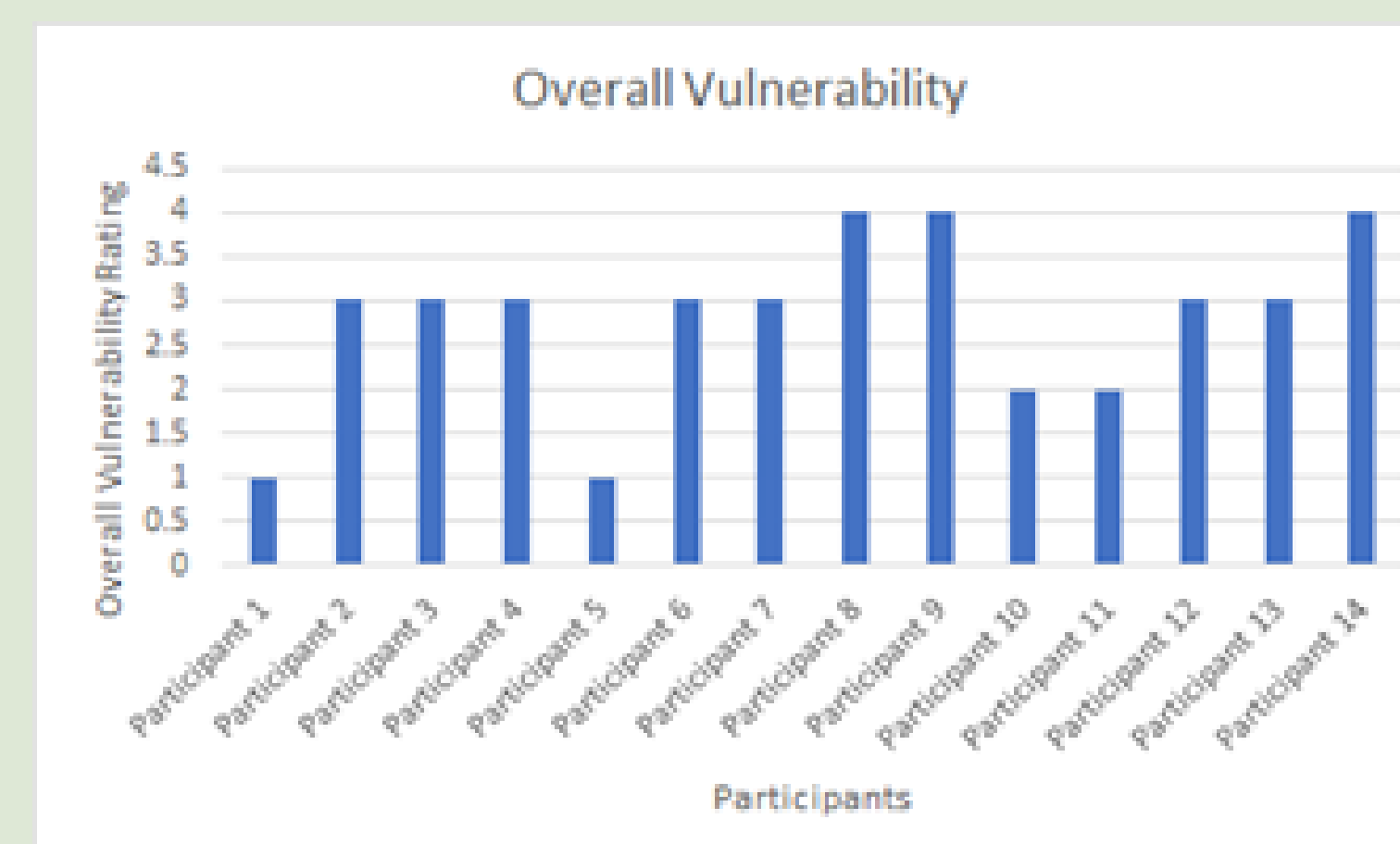
Results

The inferences made ranged from names of the children to location of their homes and or schools.



Instagram Analysis Results

- We broadly classified the inferences into Activities, Events, Places and Other
- An overall vulnerability was assigned to the user.



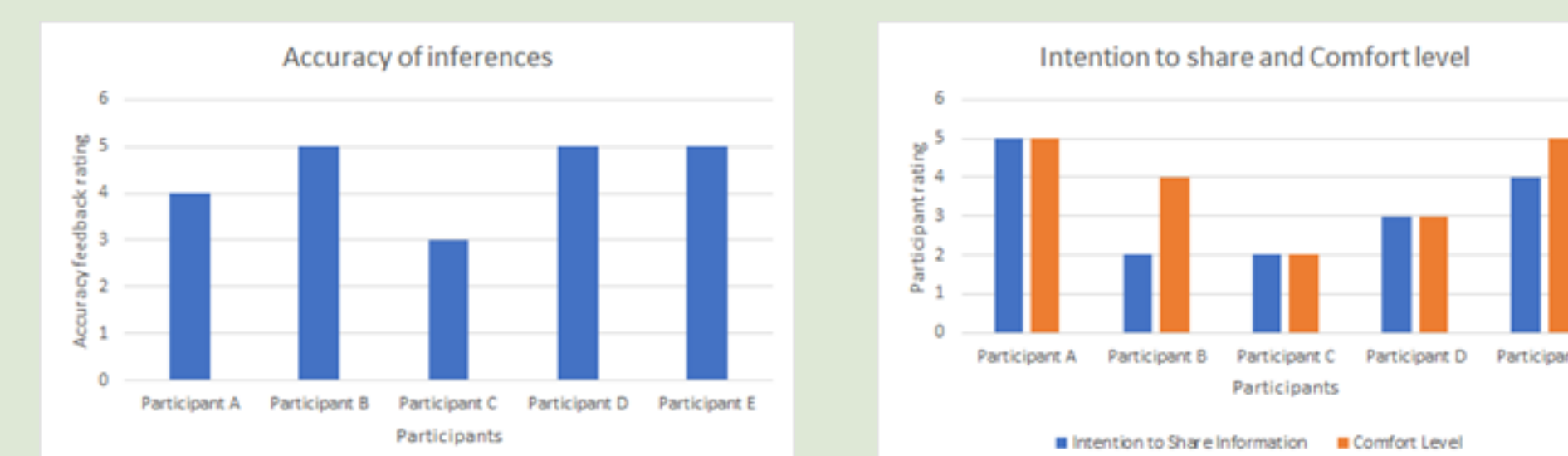
Below is the distribution of vulnerabilities:



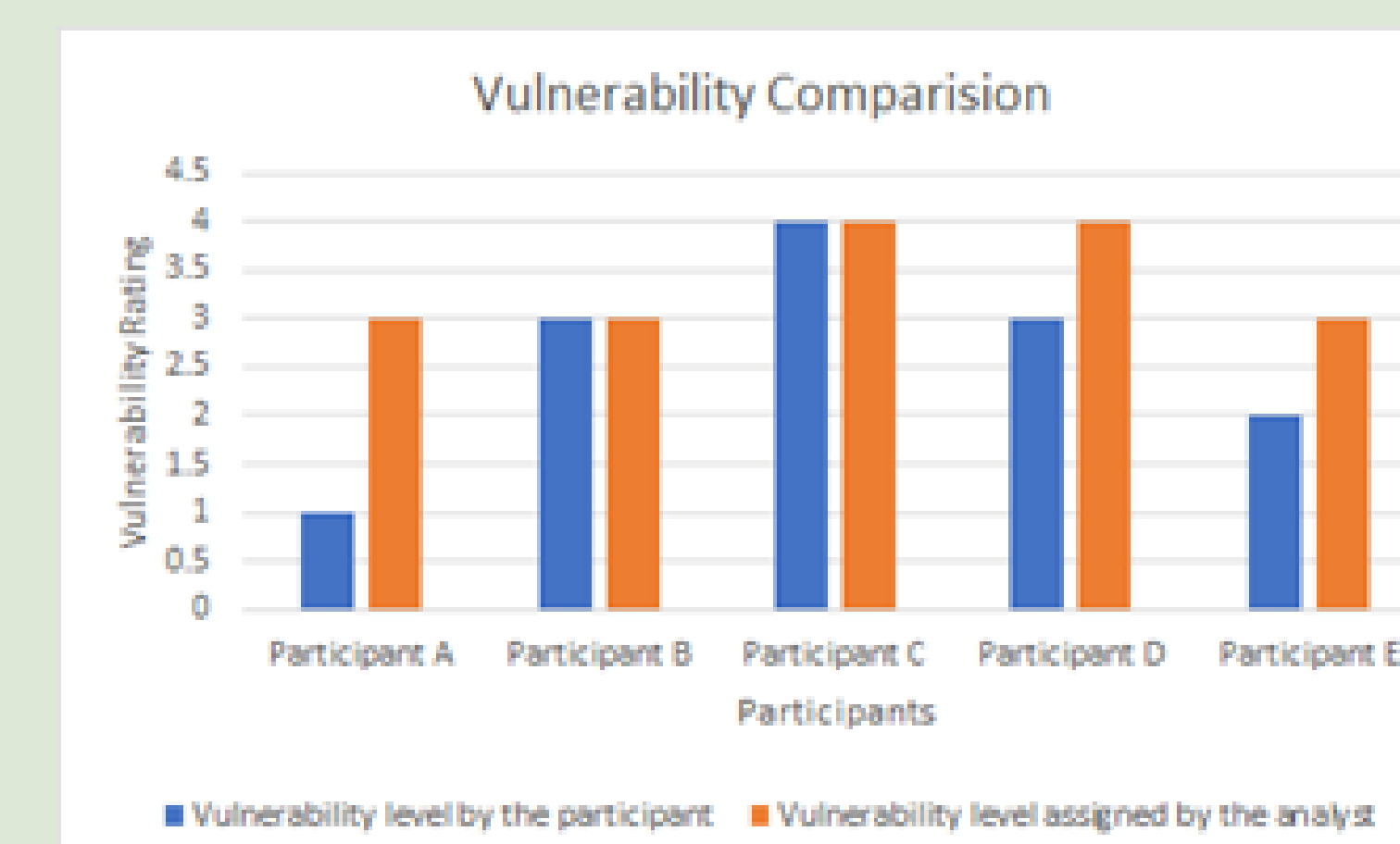
- The greatest number of vulnerable tags were identified for ‘Other’ category
- The most vulnerable tags were identified in ‘Places’ and ‘Others’ categories.

Survey Results

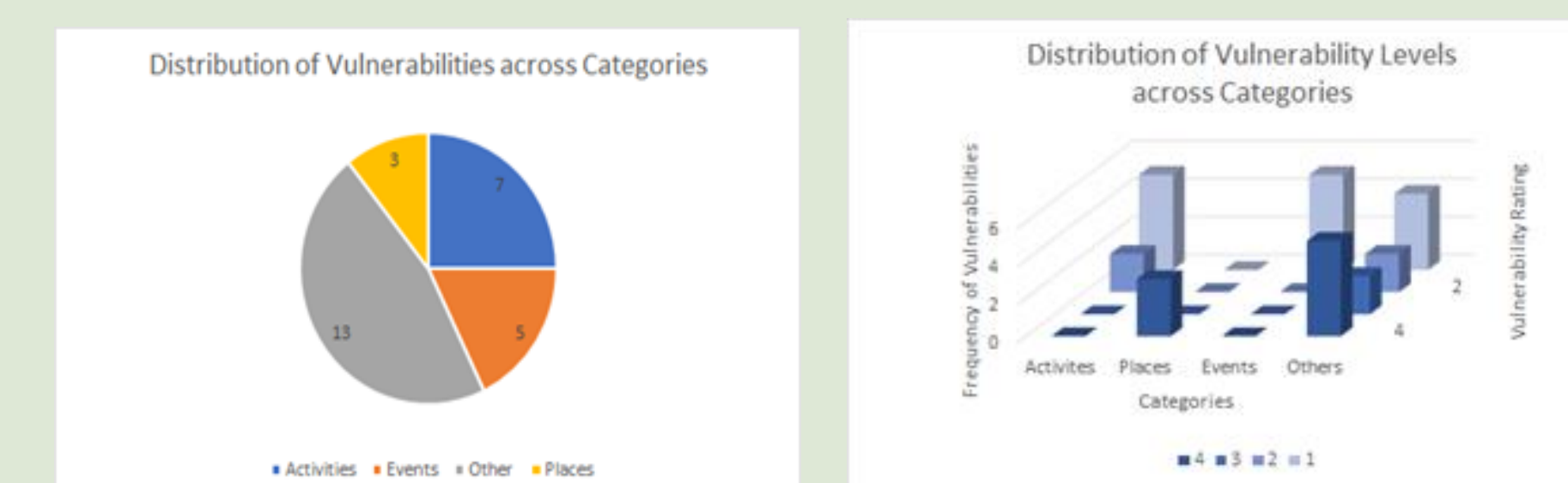
The participants reported the accuracy, their intention to share and comfort level from the inferences drawn



Below is an analysis of the participant’s perceived vulnerability and our perception – the analyst’s rating was higher or equal to the participant.



Below is the distribution of vulnerabilities:



- The greatest number of vulnerable tags were identified for ‘Other’ category
- The most vulnerable tags were identified in ‘Places’ and ‘Others’ categories

Conclusions

- Other than Participant A, the participants perceived privacy harm in the inferences drawn.
- The distribution of vulnerabilities across categories in the Instagram survey matched with that of the confirmed vulnerabilities of the surveys.
- The top two most vulnerable categories were same in both procedures.

Future Work

- The research will be conducted on a larger data set to get a more generalized understanding.
- Improve upon the model for sensitivity of data points
- Study for public and private profiles and determine correlations if any
- Develop preventative tool to offer warnings to user when they upload photos with sensitive data

Acknowledgments

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