Heuristic Decision-Making for App Selection

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Abstract

Previous studies have found that user ratings were weighted more in app-selection decisions than a summary permission safety score. This result could have been due to the user rating for an app being read prior to the permission safety due to their locations. In the present study, we varied whether permission safety or user rating was located above or below the other and also whether safety was signaled by a lock icon or a shield icon. Neither of these variables altered the relative weightings given to safety and user ratings. Consideration is given to whether other presentation variables might get users to increase the relative weighting given to permission safety.

Background

- When downloading apps, mobile users usually rely on user ratings and download numbers, ignoring risks associated with installing the app on their smartphones.
- Most users tended to ignore permission requests once they decide to download an app.
- Several studies have shown that inclusion of a summary risk/safety score in the early stage of app selection assists users in making safer choices.
- When a risk or safety score was included, participants still relied more on the user ratings, possibly because the ratings were displayed above the safety scores and would have been read first.
- Goal: Present safety score in a way that increases the weighting that users give to safety when selecting apps.

Procedure/Method

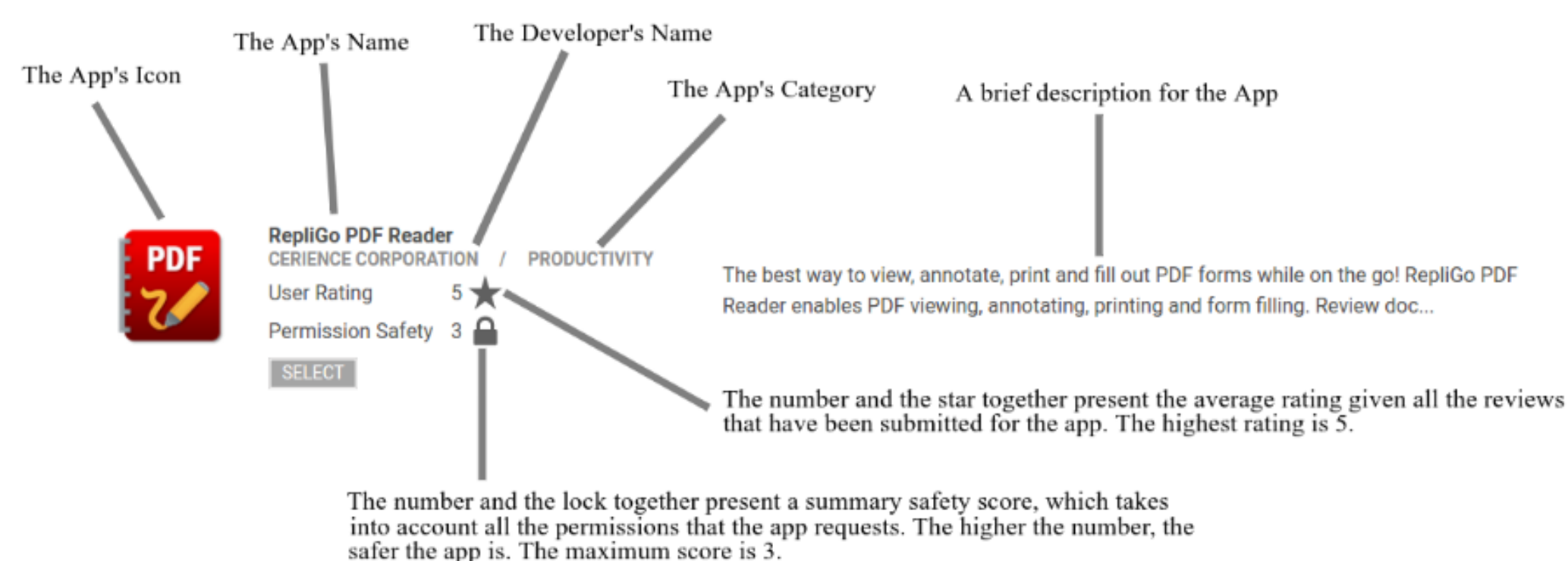- 240 participants were recruited from Amazon MTurk.
- 4 between-subjects conditions with cue order (user rating/ permission safety vs, permission safety/user rating) and safety icon (lock vs. shield) varied.
- Participants were instructed about the details of the interface, including user rating with a number 1 to 5 accompanied by a star, and permission safety with a number 1 to 5 and lock/shield.
- They then performed six app-selection tasks where two apps out of six in the same category were chosen (e.g., pdf reader, weather).
- Participants could pick reasons for selecting an app, including user rating, permission safety score, app icon look/feel, description, familiarity with app or developer, and other.
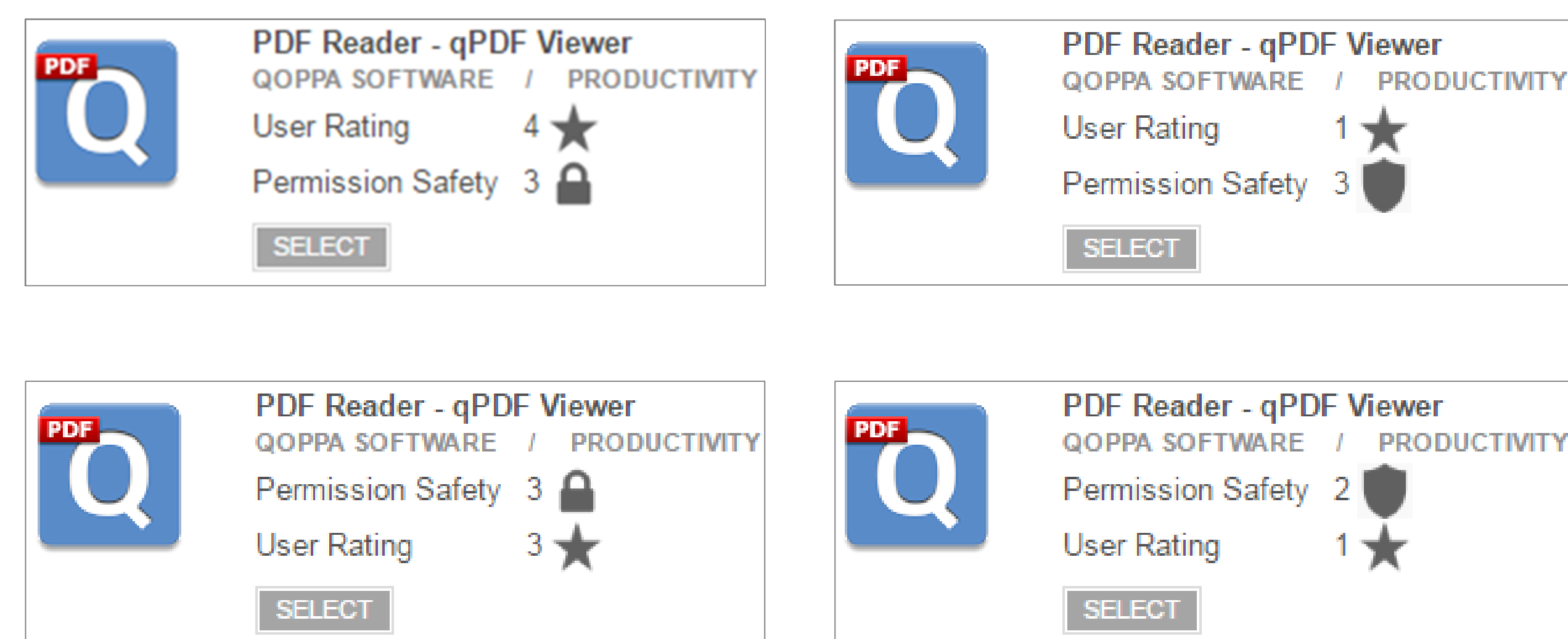
Results

App-Choice Analysis

- The percentage of app selection was higher with increased safety and increased user rating.
- Participants were less likely to choose an app when the user rating was low (1, 2, and 3), regardless of safety score, but they were more likely to choose an app with higher safety score when the user rating was high (4 and 5).
- There were no main effects of presentation order and icon, and there was no interaction between the two.
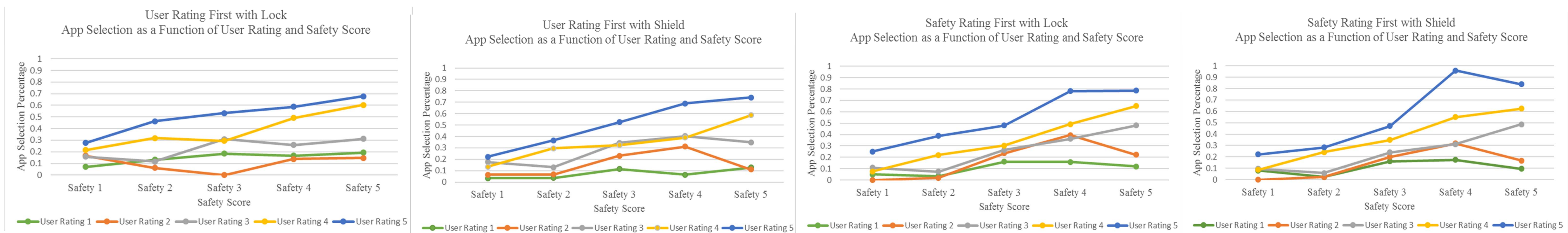
Post-Task Survey

- 88% of participants claimed they considered user ratings when they made the decisions. Among those participants, 78% also considered permission safety. 8 participants claimed that they considered permission safety but not user rating.
- 64% of participants indicated that they consider the permission on the "confirmation page" before installation of an app in the real Google Play store and find it useful, 19% participants reported that they did not remember seeing permission on the confirmation page, and 17% participants indicated that they did not consider permissions at all.