AN ENGAGEMENT INDEX:
The development and application of an engagement index on the participants use of an infant feeding app: The Growing healthy program

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BACKGROUND

• Mobile health (mHealth) interventions have great potential to promote health
• Very little research has been conducted to understand how participants interact with health apps and with which parts of apps participants engage with.

WHAT ARE OUR GOALS?

Develop and apply an index to objectively measure how and when participants engage with the Growing healthy mHealth program.

HOW DO WE DO THIS?

1. Identify program measures

Analytics data:
• The Growing healthy app provided infant feeding information up to 9 months
• Mothers were able to join if they had a baby 3 months or less
• Users received 3 push notifications per week tailored to their baby’s age and current feeding method

Surveys:
• Participants were requested to complete 3 surveys baseline, 6 month and 9 month of the baby’s age
• The surveys collected information about the mothers feeding practices and satisfaction with the app

2. Explore the analytics to identify metrics

The analytics collected from the Growing healthy app included:
• Number of days the participant accessed the app
• Pages visited
• Push notifications sent and opened

3. Application of the Engagement Index

• The Engagement Index (EI) tool developed by Web analytics Demystified (Peterson & Carrabis, 2008) was adapted and used to measure how participants engaged with the Growing healthy app
• The engagement Index tool comprises five-sub indices designed to capture a range of participant behaviours

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<thead>
<tr>
<th>Metric</th>
<th>Definition</th>
<th>Formula</th>
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<tbody>
<tr>
<td>Click depth index (CI)</td>
<td>Number of pages a participant viewed per session (1 day) in the app</td>
<td>Session having “at least 2 pages viewed”</td>
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<tr>
<td>Recency Index (RI)</td>
<td>The time difference between each session the participant accessed the app</td>
<td>All sessions</td>
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<tr>
<td>Loyalty Index (Li)</td>
<td>Measures the frequency of the mother access to the app from when she 1 commenced the program until the baby’s age at 9 months</td>
<td>Number of days elapsed since the most recent session</td>
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<tr>
<td>Feedback Index (Fi)</td>
<td>Subjective measure of the participants’ satisfaction with the app assessed in the programs 9 month survey (questions included: ease of navigation, readability, quality and usefulness of the content on the app)</td>
<td>Number of positive responses</td>
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<tr>
<td>Interaction Index (II)</td>
<td>Number of push notifications opened from those sent throughout the program</td>
<td>Total number of push notifications opened</td>
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Table 1. The Engagement Index and metrics for the Growing healthy program

WHAT DOES THE ENGAGEMENT INDEX PROVIDE?

• MHealth interventions delivered by apps provide the opportunity to investigate participants’ engagement with the intervention and its constituent parts. The use of an Engagement Index may help researchers to understand how participants engage with such an intervention, the trends in engagement over the course of the program, and whether the levels of engagement affect intervention outcomes.

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