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Are you Committed Cathy, Reluctant Rita or Negative Nancy? Defining User Personas for a Technology-Based Wrist-Worn Eating Monitor

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Abstract

Self-monitoring of energy intake is a critical element of a successful weight loss plan. However, current methods to monitor energy intake are cumbersome and prone to under reporting. The present study examined how individuals used a new energy intake monitoring tool, the Bite Counter, to adjust their eating behavior to a targeted bite limit. Data were collected from 30 female participants examining their compliance with using the device as well as their adherence to eating limits based on bite count. Three distinct compliance personas were developed based on the shared behaviors and traits of device users: Committed Cathy (the rapid adopter, seldom misses tracking eating activities), Reluctant Rita (often forgets device, always has an excuse) and Negative Nancy (will not wear or use the device). These personas will inform future experimenters on how to improve usage instructions in order to increase participant compliance with using technology-based eating behavior monitoring tools.

Methods

Forty-eight female participants were recruited for this study from the faculty, staff and student population of a mid-sized southeastern university. The study population was restricted to female participants only because of a low respondent rate for males during pilot testing and to restrict to female participants examining their compliance with using the device as well as their adherence to eating limits based on bite count. Three distinct compliance personas were developed based on the shared behaviors and traits of device users: Committed Cathy (the rapid adopter, seldom misses tracking eating activities), Reluctant Rita (often forgets device, always has an excuse) and Negative Nancy (will not wear or use the device). These personas will inform future experimenters on how to improve usage instructions in order to increase participant compliance with using technology-based eating behavior monitoring tools.

Results

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Committed Cathy</th>
<th>Reluctant Rita</th>
<th>Negative Nancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitement level</td>
<td>High</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Diet Experience</td>
<td>Moderate - some success</td>
<td>Moderate - rarely successful</td>
<td>High - nothing works</td>
</tr>
<tr>
<td>Wear of Device</td>
<td>All of the time</td>
<td>Only during meals</td>
<td>Always forgets</td>
</tr>
<tr>
<td>Daily Usage of Device</td>
<td>Seldom forgets to record meals</td>
<td>Frequently forgets to record meals</td>
<td>More missed than recorded</td>
</tr>
<tr>
<td>Consistency of Eating Times</td>
<td>Very consistent</td>
<td>Inconsistent</td>
<td>Extremely inconsistent</td>
</tr>
<tr>
<td>Consistency of Amount Eaten</td>
<td>Amounts are fairly constant</td>
<td>Amounts vary moderately</td>
<td>Amounts vary greatly</td>
</tr>
<tr>
<td>Casual Consumption</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Weight Loss</td>
<td>Yes</td>
<td>Possible</td>
<td>No</td>
</tr>
<tr>
<td>Public Aware of Diet</td>
<td>Yes</td>
<td>Possible</td>
<td>No</td>
</tr>
<tr>
<td>Family Support</td>
<td>Yes</td>
<td>Possible</td>
<td>No</td>
</tr>
<tr>
<td>Complaints</td>
<td>Rarely complains</td>
<td>Criticizes the device and diet</td>
<td>Constantly complains</td>
</tr>
<tr>
<td>Excuses</td>
<td>Accepts blame for failures</td>
<td>Seldom accepts blame for failures</td>
<td>Always blames something/one else</td>
</tr>
</tbody>
</table>

Figure 1. The commercially available Bite Counter

Methods (continued)

Respondents were self-reported as being at least 9 kilograms overweight with no history of eating disorders. Selected participants were tracked for 11 weeks with in-lab weigh-ins and body measurements. Participants behaviors were developed post-hoc based on experimenter observations and data collected during the study period. Participants were paid $25 for their participation in the study.

Conclusion

User personas can be used to aid researchers in the early identification of future study participants who may be at a higher risk for dropping out. They can also highlight those who may have trouble with Bite Counter compliance or adherence to a diet protocol based on bite count. Ideally, it would be beneficial to predict user performance profiles based on a screening questionnaire that measures an easily adapted construct such as motivation, self-efficacy or body image and to correlate screening scores with these personas. This would give future researchers the ability to effectively classify and screen users during study intake and initial phases of the study, instead of needing weeks of observation to identify problematic participants.

In conclusion, this study establishes three distinct user personas for the Bite Counter and provides researchers with a classification method that can be used as a performance predictor for future study participants.

References


Contact Information