Effects of Applying Multimedia and Dialogue Boxes to Web Survey Design

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ABSTRACT

Web surveys are performed in a less controlled Internet environment in which survey quality is deteriorated because of unfriendly survey designs that cause an unpleasant mental response among those completing the surveys. This paper suggests two new elements for designing web surveys; namely, multimedia (MM) and dialogue box (DB). The former can deliver messages to respondents more effectively, and the latter can enrich a text-only survey format. This research investigates how MM and DB influence respondents’ response burden (RB), content perception (CP), and involvement (IN). A low RB and a high IN can increase user willingness to participate, whereas a high CP can increase the validity of the user’s answers. A cross-sectional study was conducted with 280 college students in Taiwan. The respondents were placed in four groups: (1) TT, those using plain text to describe the survey and ask questions; (2) MT, those using multimedia to describe the survey and plain text to ask questions; (3) TD, those using plain text to describe the survey and dialogue to ask questions; and (4) MD, those using multimedia to describe the survey and dialogue to ask questions. Using ANOVA and t-test, the authors completed an investigation that revealed that MM enhances CP, improves IN, and lowers RB, whereas DB only lowers RB.

Keywords: Multimedia, dialogue, content perception, involvement, response burden
1. INTRODUCTION

Because of the rapid growth of the Internet, people today tend to use web surveys instead of handwritten ones. Through a web interface, surveys can be delivered to users in a more time-efficient manner, without the intervention of the inquirer. Studies that compare the non-response rate (NRR) between online surveys and paper surveys show that the NRR is different for surveys of different design and different delivery media (Evans & Mathur, 2005; Roster, Rogers, Albaum & Klein, 2004; Leeuw & Heer, 2002). Compared with paper surveys, web surveys have a higher drop-out rate (Sánchez-Fernández, Muñoz-Leiva & Montoro-Ríos, 2011).

In the less controlled Internet environment, therefore, it is important to design a web survey with motivating and enlightening elements to positively enhance respondents’ psychological conditions and direct them to concentrate on the response procedure (Ganassali, 2008; Graesser, Cai, Louwerse, & Daniel, 2006; Matzat & Snijders, 2010). For example, a split questionnaire can reduce the respondents’ burden (Adigüzel & Wedel, 2008). Because most web surveys are completed by passively motivated respondents, they are likely to discontinue the response process because of insufficient self-motivation (Brüggen & Dholakia, 2010). Obviously, it is important to change the attitude of participants from passivity to action. To increase user motivation to complete a survey, we propose a scenario-based web survey design consisting of two elements – multimedia and dialogue box.

In general, survey designers use standards or principles for constructing survey contents; however, most questions cannot be expressed well because of language limitations. To obtain valid and reliable samples of a web survey, users must possess thorough comprehension of the theme and high concentration on the content. With multimedia (Chien & Chang, 2010), the theme of a relatively complicated scenario can be delivered to users more effectively and accurately; therefore, it is adopted to enhance readers’ cognitive perception toward online contents (Sundar, 2000). With dialogue box, a more structured user interface with buttons and frames guides respondents to engage in reflective activities in interaction, such as explaining problems. It is also more productive in learning what is to be delivered from a computer screen (Baker & Lund, 1997).

To evaluate the effectiveness of multimedia and dialogue box, we use content perception (CP) (Foddy, 1994; Cavazza, Charles & Mead, 2002); response burden (RB) (Lenzner, Kaczmirek & Lenzner, 2010; and involvement (IN) (Cleland, 2010).
to measure the psychological conditions of respondents. We conducted a cross-sectional study with 280 college students in Taiwan. Using ANOVA and t-test, we completed an investigation that shows that multimedia enhances CP, improves IN, and lowers RB; whereas dialogue only lowers RB.

2. LITERATURE REVIEW AND HYPOTHESES

Some scholars focus on improving the design of questionnaires in order to improve data quality. Adigüzel & Wedel (2008) used a split questionnaire design for massive surveys. This approach is a way to minimize lost information and reduce respondents’ burden. Split questionnaires offer the potential to obtain higher quality information from respondents at a faster rate and more accurately. It has been shown to affect the quality of the data collected in a survey and to affect also users’ intentions when completing a survey. Drop-out bias is also a serious concern that cannot be ignored. The high drop-out rate for questionnaires is considered an important element that affects data quality, especially for online questionnaires. Motivating respondents to continue with the response procedure, therefore, becomes an important issue (Graesser, Cai, Louwerse, & Daniel, 2006; Matzat & Snijders, 2010).

From the literature review, we find that most research studies focus on improving the design and the layout of the questionnaire. Few can truly stand in the view of respondents and use new ways to look at the problems. Brüggen & Dholakia (2010) pointed out that most online surveys are filled out by passively motivated respondents who usually drop out before they finish completing the questionnaire. It is important to change their attitude from passive to active and thus reduce the impact on questionnaire results. If respondents do not understand the meaning of a survey question, they will not supply a valid and reliable answer. It is important, therefore, to identify problems with questions with respect to comprehension difficulty.

2.1 Multimedia

Multimedia is the use of more than one medium of expression or communication (e.g., words, images, sounds, artistic devices) to transmit information. It is used in many areas such as education, advertising, and entertainment. In general, survey designers experience difficulties using “standards” or “principles” to create text-only questions that are fully understood by respondents. Multimedia can overcome this language limitation and bring higher content comprehension to respondents, thus reducing response time and
response burden. In addition, multimedia fosters positive attitudes and facilitates greater involvement (Street Jr. & Manning, 1997).

2.2 Dialogue Box

A dialogue box is a small area on a computer screen that prompts the user to provide information, supply additional facts, or select menu items. Dialogue boxes with virtual characters are an essential part of many interactive 3D graphics simulations and make computer-assisted communication more interactive for users (Bansal, 2011). Several experimental studies show that dialogue boxes with virtual characters can effectively persuade and motivate users (Kim & Baylor, 2006; Arnott et al., 2013; Atif, 2013; Kays et al., 2013; Jou & Wang, 2013). Since users are motivated to greater enthusiasm and higher concentration, they experience stronger content perception and a lower response burden. Dialogue boxes may also create a scenario feeling through which users can imagine the theme and become more involved in answering the survey.

2.3 Response Burden

Text format always contains implicit information that readers need to infer from the text and spend more effort to figure out. Using multimedia is a good way to improve format (Lenzner, Kaczmirek, & Lenzner, 2010). Attaching two surveys to a questionnaire and using pictures or media instead of text can decrease response burden (Filion, 1981). DeFleur et al. (1992) found that the use of scenarios and digital storytelling is an effective way to organize and present what designers try to express. They found that this approach produced simulated feelings that allowed participants to experience the event as if it were really happening and to slip more easily into the survey scenario, thereby shortening response time and reducing response burden (DeFleur et al., 1992).

2.4 Content Perception

In seeking to increase the perception of content, some paradigms have linked content with virtual characters. Cavazza et al. (2002) developed an interactive storytelling system that helps users develop a stronger memory of textual materials, as opposed to being immersed in the story. When virtual characters begin to plan their own physical actions and gestures, users might be able to adapt to imagine the stories and get into the storytelling (Picard, 2003; Rosenbloom, 2000). With virtual characters, a text-based survey can have different formats. The use of virtual characters can help transform a text-based survey into a dynamic dialogue and allow evaluation of users arriving at interpretations of the survey (Iurgel, 2003).
is important for respondents to understand the subject of the questionnaire and to understand what messages the survey is conveying to them. If questions are too difficult, respondents may reach different interpretations (Belson, 1981; Foddy, 1994) or may refuse to answer further questions in the survey (Ganassali, 2008). Multimedia implies multiple senses that can be used to process a stimulus and multiple modalities or channels that can be used to transmit a message (Aarts, 2004). New media forms a channel for users to access the correct and useful information, especially with regard to online affinity spaces and online surveys. Wright (1973) found that different combinations of media, text, and audio influence the response given to the same message and that these combinations do help readers to receive messages and information. To minimize information loss and avoid implicit definitions, new media has been found to have profound effects on users’ perception and to help them to comprehend (Graesser, Hoffman, & Clark, 1980).

2.5 Involvement

The use of virtual characters is a way to respond to and “dialogue” with respondents – to “look back” and “talk back.” This characteristic is the key factor to involving the respondent as a visual partner (Cleland, 2010). Although virtual characters are not real, they play an important role in online surveys. They give respondents a comforting sense of being involved and being relaxed during the survey. Brockmyer et al. (2009) found that participants reported experiences consistent with some degree of engagement that heightened enjoyment if they had a good experience with the survey. Involvement with different virtual characters leads to different responses. In general, for conversational characters, the usual approach has been to raise user interest and make participants feel deeply involved in the scenario and thus provide feedback (Bruce & Reynolds, 2009).

As indicated earlier, we use a model in this study to predict how different modalities of multimedia and dialogue elements affect the psychology of users. We use a 2x3 model that crosses elements (multimedia and dialogue) and the psychology of respondents (content perception, involvement, response burden). Comparing multimedia and dialogue box modalities with a plain-text web survey, we developed the following nine hypotheses:

**H1.** Web survey with multimedia can enhance a respondent’s content perception.

**H2.** Web survey with multimedia can enhance a respondent’s involvement.
**H3.** Web survey with multimedia can reduce a respondent’s response burden.

**H4.** Web survey with dialogue boxes can enhance a respondent’s content perception.

**H5.** Web survey with dialogue boxes can enhance a respondent’s involvement.

**H6.** Web survey with dialogue boxes can reduce a respondent’s response burden.

**H7.** Web survey with both multimedia and dialogue boxes can enhance a respondent’s content perception.

**H8.** Web survey with both multimedia and dialogue boxes can enhance a respondent’s involvement.

**H9.** Web survey with both multimedia and dialogue boxes can reduce a respondent’s response burden.

### 3. METHODS

This section discusses design of the experiment and presents information on the study participants and the procedures used in this research.

#### 3.1 Experiment Design

To test our hypotheses, we conducted a 2x2 cross-sectional study. In conducting our experiment, we used an existing service failure questionnaire as the web survey topic. Part I of the survey contained 11 questions. We used either plain-text or multimedia (video) to explain how the service failure scenario happened. Then, we asked respondents to react to the service failure, using either plain-text or dialogue box formats. For analysis, we developed four groups:

I. **TT Group:** Uses plain-text to describe survey theme and ask survey questions

II. **MT Group:** Uses multimedia to describe survey theme and uses plain-text to ask survey questions

III. **TD Group:** Uses plain-text to describe survey theme and uses dialogue boxes to ask survey questions

IV. **MD Group:** Uses multimedia to describe survey theme and uses dialogue boxes to ask survey questions
Part II of the questionnaire contained 13 questions in plain-text format. The questions sought feedback on what respondents thought about the survey design of Part I from the psychological perspective of response burden (RB), content perception (CP), and involvement (IN).

3.2 Participants and Procedures

College students in Taiwan were recruited for this study. A total of 296 students participated and were divided into four sections to take the TT, MT, TD, and MD web surveys, respectively. A total of 280 students (97.35%) completed questionnaires that were accepted for data analyses. Of these, 47.9% were male and 52.1% were female. The age of the subjects ranged from 20 to 29, with an average of 23 years. Of the 280 participants, 251 (89.6%) were enrolled in college or had a bachelor’s degree, and 29 (10.4%) had a master’s degree.

All students received the same instructions. They were told that the survey was being conducted for research purposes and that their participation was voluntary. All response sets were on a five-point Likert-type scale. Students filled out questionnaires in a classroom setting, using Internet access.

We used statistical software to develop the measures and test the hypotheses. For descriptive statistics, we used an SPSS statistical software package. To analyze cross-sectional conditions, we used ANOVA.

4. RESULTS

We present our results from three studies. Study 1 shows how plain-text format, multimedia, and dialogue boxes influence user RB, CP, and IN and tests hypotheses 1 to 6. In study 2, we analyze how the TT, MT, TD, and MD groups influence RB, CP, and IN and test hypotheses 7 to 9. The reliability estimated by Cronbach’s α for the construct variables are above 0.70 and are thus accepted (Nunnally, 1978). Composite reliability (CR) values are all higher than 0.70 and are within the permissible range (Fornell & Larcker, 1981). In sum, the data reliability is good. The AVE scores are above 0.5, which means that convergent validity is good (Fornell & Larcker, 1981).

4.1 Study 1: Three Groups (TT, MT, and TD)

We used ANOVAs to test the experimental factors which, as intended, were
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varied in the first three groups (TT, MT, and TD). Initially, we verified whether RB, CP, and IN achieved homogeneity. The estimated p-values were: CP = 0.053, IN = 0.498, and RB = 0.098. All p-values were higher than 0.05, which is in the 95% confidence level; therefore, they pass the homogeneity test.

Consequently, we used one-way ANOVA to test whether multimedia and dialogue boxes yield significant effects for RB, CP, and IN, respectively, by testing the following hypotheses:

**H1.** Web survey with multimedia can enhance a respondent’s content perception.

**H2.** Web survey with multimedia can enhance a respondent’s involvement.

**H3.** Web survey with multimedia can reduce a respondent’s response burden.

**H4.** Web survey with dialogue boxes can enhance a respondent’s content perception.

**H5.** Web survey with dialogue boxes can enhance a respondent’s involvement.

**H6.** Web survey with dialogue boxes can reduce a respondent’s response burden.

Table 1 shows the ANOVA analysis results for three groups:

<table>
<thead>
<tr>
<th></th>
<th>CP</th>
<th>F(2, 207)=9.675, p&lt;0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN</td>
<td>F(2, 207)=8.985, p&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>RB</td>
<td>F(2, 207)=94.406, p&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

As indicated, all three achieve the significance level (p<0.001), which means that multimedia and dialogue boxes influence CP, IN, and RB. We used Scheffe’s post-hoc method for advanced comparison and analysis.

As shown in Table 1, the MT group has the highest CP score, 3.93 (SD=0.51), and the TT group has the lowest, 3.53 (SD=0.64). The result means that multimedia gives participants in the MT group much higher content perception than in the TT group. Second, the MT group has the highest IN score, 3.73 (SD=0.49) whereas the TT group has the lowest, 3.35 (SD=0.59). This result indicates that multimedia allows participants in the MT group to feel more involved than those in the TT group. The TD group has the lowest RB score, 2.52 (SD=0.57) whereas the TT group has the highest, 3.94 (SD=0.51). From this, we conclude that dialogues in the TD group causes a lower response burden for participants than in the TT group.
Table 1. ANOVA Analysis Among TT, MT, and TD Groups

<table>
<thead>
<tr>
<th></th>
<th>TT Group (n=70)</th>
<th>MT Group (n=70)</th>
<th>TD Group (n=70)</th>
<th>ANOVA</th>
<th>Post-Hoc Test (Scheffe’s Method)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content Perception (CP)</td>
<td>M 3.53</td>
<td>3.93</td>
<td>3.67</td>
<td>F=9.675</td>
<td>(MT) &gt; (TT)</td>
</tr>
<tr>
<td></td>
<td>SD 0.64</td>
<td>0.51</td>
<td>0.48</td>
<td>p&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Involvement (IN)</td>
<td>M 3.35</td>
<td>3.73</td>
<td>3.64</td>
<td>F=8.985</td>
<td>(MT) &gt; (TT)</td>
</tr>
<tr>
<td></td>
<td>SD 0.59</td>
<td>0.49</td>
<td>0.57</td>
<td>p&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Response Burden (RB)</td>
<td>M 3.94</td>
<td>2.85</td>
<td>2.52</td>
<td>F=94.406</td>
<td>(TT) &gt; (TD)</td>
</tr>
<tr>
<td></td>
<td>SD 0.51</td>
<td>0.52</td>
<td>0.57</td>
<td>p&lt;0.001</td>
<td>(TT) &gt; (MT)</td>
</tr>
</tbody>
</table>

![Mean value graph](image)

**Figure 1. The Mean Values Among Groups 1, 2, and 3**

The results indicate that, with regard to content perception (CP), there was a significant relationship between the MT group and the TT group. In particular, respondents in the MT group had a higher CP than their counterparts in the TT group and the TD group; thus, H1 is supported. With regard to involvement (IN), there was significant relationship between the MT group and the TT group. Specifically, there was a significantly higher involvement in the MT group. The
result supports hypothesis H2. With regard to response burden (RB), there was a significant effect on the MT group and the TD group. Respondents in these two groups had a lower response burden; thus, hypothesis H3 and hypothesis H6 are supported. In summary, the results of Study 1 support the following hypotheses:

**H1.** Web survey with multimedia can enhance a respondent’s content perception.

**H2.** Web survey with multimedia can enhance a respondent’s involvement.

**H3.** Web survey with multimedia can reduce a respondent’s response burden.

**H6.** Web survey with dialogue boxes can reduce a respondent’s response burden.

### 4.2 Study 2: Four Groups (TT, MD, TD, and MT)

Study 2, which is based on study 1, measures different scenario conditions among four groups, as shown in Table 2. The analysis results are as follows:

- **CP** $F(3, 276)=9.608, p<0.001$
- **IN** $F(3, 276)=10.335, p <0.001$
- **RB** $F(3, 276)=94.318, p<0.001$

With regard to content perception (CP), there was significant relationship between the MD group and the TT group. In particular, respondents in the MD group had a CP that was higher than that of respondents in the MT, TD, and TT groups. The results support hypothesis 7. With regard to involvement (IN), there was a significant relationship between the MD group and the TT group. Specifically, the highest involvement occurred in the MD group, which supports hypothesis 8. With regard to response burden (RB), the results show that respondents in the MD group had a lower RB than the MT group. As a result, hypothesis 9 is supported.

These findings show that, by combining multimedia and dialogue boxes, one can take advantage of both elements and thereby minimize the disadvantages of traditional online questionnaires.
The results of study 2 support hypotheses 7, 8, and 9 (Figure 2).

Figure 2. The Mean Value Among Groups 1, 2, 3, and 4
H7. Web survey with both multimedia and dialogue boxes can enhance a respondent’s content perception.

H8. Web survey with both multimedia and dialogue boxes can enhance a respondent’s involvement.

H9. Web survey with both multimedia and dialogue boxes can reduce a respondent’s response burden.

4.3 Study 3: Two Groups (TT/TD and MT/MD)

The results of study 2 (Table 2) indicate that the mean value of content perception (CP) and involvement (IN) between the TT group and the TD group are similar, and the same is true between the MT group and the MD group. Therefore, in study 3, we use the t-test (Table 3) to conduct further analyses. First, we measure whether using dialogue elements produces a significant difference between the TT group and the TD group. Second, we estimate whether using video has an impact on content perception and involvement between the MT group and the MD group. Although the mean value of the response burden (RB) between the TT group and the TD group and between the MT group and the MD group are not similar, we still include it in our discussion.

Table 3. Mean Value of Three Variables Among TT, MT, TD, and MD Groups

<table>
<thead>
<tr>
<th></th>
<th>Text</th>
<th>Multimedia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Text</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TT Group</td>
<td>C=3.53</td>
<td>MT Group</td>
</tr>
<tr>
<td></td>
<td>I=3.35</td>
<td>C=3.93</td>
</tr>
<tr>
<td></td>
<td>B=3.53</td>
<td>I=3.73</td>
</tr>
<tr>
<td>Dialogue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TD Group</td>
<td>C=3.67</td>
<td>MD Group</td>
</tr>
<tr>
<td></td>
<td>I=3.64</td>
<td>C=3.95</td>
</tr>
<tr>
<td></td>
<td>B=3.67</td>
<td>I=3.81</td>
</tr>
</tbody>
</table>

**T-test Between TT Group and TD Group.** The t-test results in Table 4 indicate that, with regard to content perception (CP) and involvement (IN), p>0.05, there is no significant difference between the TT group and the TD group. With regard to response burden (RB), p=0.000<0.05, there is a significant relationship between the two groups. We can conclude, therefore, that using a dialogue box can reduce the response burden when conducting a survey. (p<0.05), but that using a dialogue box cannot reduce content perception and involvement when conducting...
a survey (p > 0.05).

Table 4. Paired Samples Test for TD Group and TT Group

<table>
<thead>
<tr>
<th>TD Group - TT Group</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1: Content Perception (CP) after - before</td>
<td>1.282</td>
<td>69</td>
<td>0.204</td>
</tr>
<tr>
<td>Pair 2: Involvement (IN) after - before</td>
<td>1.830</td>
<td>69</td>
<td>0.060</td>
</tr>
<tr>
<td>Pair 3: Response Burden (RB) after - before</td>
<td>14.118</td>
<td>69</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**T-test Between MT Group and MD Group.** The t-test results in Table 5 indicate that, with regard to content perception (CP) and involvement (IN), p > 0.05, there is no significant difference between the MD group and the MT group. The result means that combining dialogue boxes and multimedia cannot enhance respondents’ content perception and involvement. With regard to response burden (RB), p = 0.000 < 0.05; however, there is a significant relationship between the MD group and the MT group. The result means that combining dialogue boxes in a scenario-based questionnaire with multimedia can reduce the response burden. The finding supports Hypothesis 9 and matches part of the results of study 2. We can conclude, therefore, that using dialogue boxes with multimedia can effectively reduce the burden of completing questionnaires.

Table 5. Paired Samples Test for MD Group and MT Group

<table>
<thead>
<tr>
<th>MD Group - MT Group</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1: Content Perception (CP) after - before</td>
<td>0.184</td>
<td>69</td>
<td>0.855</td>
</tr>
<tr>
<td>Pair 2: Involvement (IN) after - before</td>
<td>1.054</td>
<td>69</td>
<td>0.296</td>
</tr>
<tr>
<td>Pair 3: Response Burden (RB) after - before</td>
<td>8.845</td>
<td>69</td>
<td>0.000</td>
</tr>
</tbody>
</table>

5. DISCUSSION

In study 1, we tested hypotheses 1 and 2 by comparing them with different scenario elements – namely, multimedia, dialogue boxes, and text format – in three
groups. The data show that there are significant differences among the three groups. Given the preponderance of effects pertaining to multimedia, we conclude that multimedia foster respondents’ content perception, promote involvement and reduce response burdens. Multimedia can motivate respondents to continue the response procedure and feel comfortable while completing the survey. We also conclude that dynamic and interactive dialogue boxes can reduce the response burdens of respondents. Using dialogue boxes, however, cannot raise the content perception and involvement of respondents. It is possible that dialogue boxes should be related to the subject, such as using the doctor character in a medical survey to motivate respondents to get involved. From study 1, we also found that multimedia is better than dialogue boxes because of its positive impact on content perception, involvement, and response burden. Dialogue boxes can only reduce a respondent’s burden; it cannot raise his or her content perception and involvement.

In study 2, we combined multimedia and dialogue in a group and included the group in our discussion. The data show that group 4 has the highest effect on content perception and involvement and has the lowest response burden. The data indicate that combining these two elements is better than using either multimedia or dialogue boxes separately in terms of involving respondents in the response procedure. In other words, the perception and psychological burden of respondents relating to the questionnaire are important factors influencing their attitude toward completing the survey.

In study 3, we found that dialogue boxes reduce the response burden, especially in a scenario-based questionnaire with multimedia. It can be concluded, therefore, that using dialogue boxes and multimedia can relieve the burden of respondents.

6. LIMITATIONS

In the current study, we discuss only one theme; namely, service failure. Future studies might discuss different themes using a scenario-based questionnaire (such as marketing, behavior analysis, or attitude survey) to investigate the best way to enhance data quality and raise respondents’ intentions. In this study, our sample is limited to college students. By extending the sample to include other groups, future studies can increase the reliability and validity of the questionnaire. Future research should focus on identifying additional elements to motivate respondents to complete a survey with high quality.
7. CONCLUSION

The objective of this paper is to overcome the drawbacks of a traditional online survey by using an innovative, scenario-based questionnaire. Unlike the traditional questionnaire that focuses on length, mode, and response rate, our innovative method gives first priority to elements that benefit users and motivate them to complete the survey properly. The results of our experiment support seven of our nine hypotheses. Results show that our innovative method helps respondents achieve not only a comforting sense of involvement, but also a feeling of relaxation during the survey process. We conclude that researchers should avoid simply copying traditional items into a web questionnaire. They should focus instead on new elements specific to the creation of web questionnaires that motivate respondents to complete the survey with a feeling of comfort and relaxation. Our findings suggest that, with sampling control and validity assessment, scenario-based questionnaires can be a suitable alternative to traditional online questionnaires. As a research topic, this subject has diverse aspects, however, and the diversity itself is a new challenge to researchers in the psychology field.

REFERENCES


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