Framing Beneficiary Photos to Improve Medical Crowdfunding Performance

Xiaopan Wang  
Tianjin University  
wangxiaopan@tju.edu.cn

Yi Wu  
Tianjin University  
yiwu@tju.edu.cn

Junpeng Guo  
Tianjin University  
guojp@tju.edu.cn

Abstract

This study explores the effect of photo framing of healthy and unhealthy beneficiary photos on medical crowdfunding performance. Based on framing theory, emphasis framing effect (i.e., unhealthy photos only vs. both healthy and unhealthy photos) and equivalency framing effect (i.e., healthy photos prior to unhealthy photos vs. unhealthy photos prior to healthy photos) are evaluated. Using a unique dataset constructed from a leading medical crowdfunding platform, the results reveal that the framing order of healthy and unhealthy photos matters. Specifically, our findings demonstrate that disclosing both healthy and unhealthy photos is associated with more fundraising amounts compared with simply disclosing unhealthy photos. Moreover, when both healthy and unhealthy photos are disclosed, the framing order of healthy photos prior to unhealthy photos is associated with less fundraising amounts than the framing order of unhealthy photos prior to healthy photos. Our study provides important theoretical and practical implications.

Keywords: Medical crowdfunding, Photo framing, Framing theory, Beneficiary photos

1. Introduction

Through expanding the pool of potential donors based on social media, medical crowdfunding can raise small donation amounts from large-scale donors to pay for fundraisers’ unaffordable medical costs (Burtch and Chan 2019). Although medical crowdfunding has become an alternative way for fundraising since the traditional ways of raising monetary donation has been less productive (Hoefler 2012), it still faces the challenges of social inequality among fundraisers and the inefficient fundraising performance (Burtch and Chan 2019).

In order to alleviate the prevalence problem of inefficiency and inequality in medical crowdfunding, some guidance has been introduced in the crowdfunding platform to help fundraisers to craft compelling crowdfunding campaigns (e.g., Gao et al. 2020). As opposed to the guidance given to the text narrative, the guidance of the photos is easier to operate and therefore more effective. Past research has demonstrated that photos can garner more attention than text (e.g., Alonso Dos Santos et al. 2017). Moreover, photos are supposed to be vivid depictions regardless of educational level (e.g., Houts et al. 2006), taking into account the fact that the disadvantaged fundraisers with less education are less likely to execute successful crowdfunding campaigns than advantaged fundraisers with higher educations (Burtch and Chan 2019).

Research on the role of beneficiary photos has always been the focus of photo-related studies in the field of online crowdfunding and donation behavior, since beneficiary photos not only provide diagnosable information, but also help arouse stronger emotional responses from donors.
However, previous studies have only focused on limited characteristics of a single photo, especially the facial characteristics, for example, race and gender disclosed in profile photos (e.g., Duarte et al. 2012; Pope and Sydnor 2011), and facial expressions (i.e., happy vs. sad) shown in beneficiary photos (e.g., Small and Verrochi 2009; Zemack-Rugar and Klucarova-Travani 2018).

Whereas a series of photos are displayed in the medical crowdfunding campaign. Specifically, there are two types of beneficiary photos, including the healthy photo by presenting the patient’s prior healthy condition and the unhealthy photo that reveals the patient’s present ill condition (Wang et al. 2020). Drawing from the framing theory, the way in which the information is presented affects the receivers’ information processing and their subsequent decision-making processes (Chong and Druckman 2007). Past research on framing theory have predominately focused on message framing (Borah 2011). We address the research question – what are the impacts of photo framing of healthy and unhealthy photos on medical crowdfunding performance? In this study, we use disclosing unhealthy photos only versus disclosing both healthy and unhealthy photos to investigate the emphasis framing effect, and healthy photos prior to unhealthy photos versus unhealthy photos prior to healthy photos to explore the equivalence framing effect.

2. Literature Review

2.1 Beneficiary Photos

Our literature review reveals that the online crowdfunding literature predominantly focused on the explanatory utility of beneficiary photos. At large, past research focused on examining two types of beneficiary photos in crowdfunding campaigns, that is campaign photos and fundraisers’ profile photos. Campaign photos help elevate the diagnosticity of fundraising campaigns. In particular, a greater number of campaign photos enhances informativeness of campaigns, which substantially affects the likelihood of receiving funding (e.g., Cheung et al. 2009). Fundraisers’ profile photos disclose patients’ demographic information and appearance, which might sensitize funders’ biases. Specifically, funders’ biases about race, gender, and beauty all determined their funding decisions (e.g., Pope and Sydnor 2011). Past research examining donation behaviors has explored the emotional utility of photos. In general, this research stream investigates how facial expression (i.e., happy vs. sad) can evoke either positive or negative emotional reactions, which can influence donation behaviors. Small and Verrochi (2009) found sad facial expressions engender more giving than happy facial expressions, whereas Isen and Noonberg (1979) pointed that the effect of a smiling face do not differ from unsmiling one on the donation behavior.

2.2 Framing Theory

Framing theory illustrates the process how “frames in communication” plays an important role in shaping “frames in thought”, that is, the way in which the information (i.e., words, photos, and phrases) is presented, influences the receivers’ information processing and their subsequent decision-making processes (Chong and Druckman 2007; Druckman 2001). Framing theory has been widely studied in a range of disciplines, but the majority of research focused on the message framing effect (Borah 2011). There are two types of framing effects have been commonly identified (Borah 2011; Druckman 2001). One is equivalency framing effect, which indicates how the use of logically equivalent information leads to different judgments and decisions (Druckman 2001). Previous studies on equivalency framing effect have drawn extensively on the influence of the positive versus negative frames, otherwise known as gain
versus loss frames. Specifically, a charitable donation appeal can be positively framed as “With your help, an unfortunate child can have an opportunity for a bright future,” or negatively framed as “Without your help, an unfortunate child will remain living in the dark,” and these two types of donation appeals had different effectiveness (Chang and Lee 2009). The other is emphasis framing effect, which demonstrates that highlight certain information can influence individuals to focus on these information to make decisions (Druckman 2001). For example, Hung and Wyer Jr (2009) investigated the influence of donation appeals from the perspective of beneficiary versus donors on the donation amounts. Smith et al. (2012) found that donations to help children in need are higher when the children comprise a family than when they have no explicit group membership.

3. Hypotheses Development

3.1 Emphasis Framing Effect

Emphasis framing effect refers to that emphasizing a subset of potentially relevant considerations can lead individuals to focus on these considerations when constructing their opinions (Druckman 2001). From this perspective, to frame is to select some aspects of a realistic event and make these aspects more salient in the receivers’ judgment processes (Entman 1993). Unhealthy photos show the suffering of patient caused by the illness, which can elicit donors’ empathy. Whereas the concurrence of healthy and unhealthy photos can evoke stronger empathy since the desperate changes that have occurred in the patient are emphasized. The empathy-helping hypothesis has widely discussed and demonstrated the significant relationship between empathy and prosocial helping behavior (e.g., Batson 1990; Small and Verrochi 2009). Moreover, healthy photos provide visible positive outcomes of donors, therefore they are more likely to donate in order to counteract the negative empathy feelings through positive expectations of their donations. Therefore, we posit that

**H1:** Compared with merely disclosing unhealthy photos, disclosing both healthy and unhealthy photos is associated with larger fundraising amounts.

3.2 Equivalence Framing Effect

Even if it is logically equivalent information, the order in which the information is framed determines the information processing process (Goffman 1974). The framing order of healthy photos prior to unhealthy photos is consistent with the historical course of the patient’s illness, which is closer to the perspective of the fundraiser. Whereas the framing order of unhealthy photos prior to healthy photos hints that the patients’ health would improve in the future if the donor contributed, which is framed from the perspective of potential donors. In general, only individuals who are inclined to donate browse medical crowdfunding campaigns, therefore, they are more likely to see themselves as potential donors. In such cases, compared with the framing order in which healthy photos prior to unhealthy photos, the framing order in which unhealthy photos prior to healthy photos is more in line with their perception of their role as potential donors. Prior research has demonstrated that cognitive concord in information processing could enhance the initial potential intention (Hung and Wyer Jr 2009). Therefore, we posit that

**H2:** When medical crowdfunding campaigns disclose both healthy and unhealthy photos, the framing order of healthy photos prior to unhealthy photos is associated with smaller fundraising amounts than the framing order of unhealthy photos prior to healthy photos.
4. Research Methodology

4.1 Dataset Construction
We constructed a unique dataset by retrieving campaigns on Qingsongchou.com, one of the largest medical crowdfunding platforms in China. Our dataset includes 1,010 campaigns. Among them, 960 campaigns included unhealthy photos, and 248 campaigns included both healthy and unhealthy photos.

4.2 Operationalization of Variables
First, we winsorized all continuous variables at the 1% and 99% levels. Then, all continuous variables were operationalized by the logarithm of their values plus one in order to avoid zeros. Second, the dependent variable was the overall amount of funding raised. Third, two independent variables were considered in our research. Specifically, disclosing both healthy and unhealthy photos was coded as 1, whereas only disclosing unhealthy photos was coded as 0. The framing order of healthy photos prior to unhealthy photos was measured as 1, whereas the framing order of unhealthy photos prior to healthy photos was measured as 0.

<table>
<thead>
<tr>
<th>DV: LN(funding amount raised)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both healthy and unhealthy photos</td>
<td><strong>0.120</strong></td>
<td><strong>-0.152</strong></td>
<td></td>
</tr>
<tr>
<td>Healthy photos prior to unhealthy photos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photo number</td>
<td>0.0160</td>
<td>0.00200</td>
<td>-0.0210</td>
</tr>
<tr>
<td>Presence of photos on medical conditions</td>
<td>0.232**</td>
<td>0.272***</td>
<td>0.824***</td>
</tr>
<tr>
<td>Presence of photos on medical expenses</td>
<td>-0.099**</td>
<td>-0.098**</td>
<td>-0.143</td>
</tr>
<tr>
<td>Presence of photos on financial disadvantages</td>
<td>-0.0230</td>
<td>-0.0260</td>
<td>-0.196*</td>
</tr>
<tr>
<td>Patient’s age</td>
<td>-0.004***</td>
<td>-0.004***</td>
<td>-0.003000</td>
</tr>
<tr>
<td>Patient’s gender</td>
<td>-0.0420</td>
<td>-0.0260</td>
<td>-0.0690</td>
</tr>
<tr>
<td>LN(Target amount)</td>
<td><strong>0.389</strong>***</td>
<td><strong>0.373</strong>***</td>
<td><strong>0.552</strong>***</td>
</tr>
<tr>
<td>LN(Title length)</td>
<td>0.235</td>
<td>0.118</td>
<td>0.609</td>
</tr>
<tr>
<td>LN(Description length)</td>
<td>0.104*</td>
<td>0.0910</td>
<td>0.153</td>
</tr>
</tbody>
</table>

| N | 1,010 | 960 | 248 |
| R-squared | 0.125 | 0.131 | 0.217 |
| F | 15.69 | 13.75 | 7.961 |

Notes: Standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01.
5. Data Analysis
We conducted linear regressions to test the hypotheses. Results are shown in Table 1. Model 1 studies the impacts of control variables only. Model 2 and Model 3 considers the two independent variables respectively. The results support H1 ($\beta = 0.120, p < 0.05$) and H2 ($\beta = -0.152, p < 0.1$).

6. Discussion
Our results supported all the hypotheses. Focusing on the impacts of beneficiary photos, our findings revealed that disclosing both healthy and unhealthy photos is associated with more fundraising amounts compared with merely disclosing unhealthy photos. Moreover, when both healthy and unhealthy photos are disclosed, the framing order of them matters. In particular, the framing order of healthy photos prior to unhealthy photos is associated with smaller fundraising amounts than the framing order of unhealthy photos prior to healthy photos.

Theoretically, this study extends the literature on the role of beneficiary photos in the field of online crowdfunding and donation behavior by exploring the framing effect of healthy and unhealthy beneficiary photos, rather than simply evaluating the facial characteristics (e.g., Pope and Sydnor 2011; Small and Verrochi 2009). Furthermore, this study contributes to framing theory by introducing photo framing, while past studies largely focused on message framing (e.g., Druckman 2001). Practically, our results are helpful in understanding the framing effects of beneficiary photos on crowdfunding performance. Accordingly, we advise service providers to provide guidance to fundraisers in using beneficiary photos to promote their campaigns.

7. Limitations
This is a research-in-process research with the following limitations that need to be addressed in the future. First, as our data collection improves, we will use larger panel data to test the research model with robustness check. Second, in order to better investigate the underlying mechanism of the impact of photo framing, we will use laboratory experiments to explore the explanatory (i.e., perceived need) and emotional (i.e., empathy) utility mechanisms of the photo framing. Third, considering the importance of stimulus congruity between verbal and visual information, we will study the moderating effect of message framing in this context.

Acknowledgements
The authors gratefully acknowledge financial support for this research from the Graduate Student Research Innovation Project of Tianjin (No. 2019YJSB157).

References