Persuasive oral hygiene communications in Uruguay and Spain

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Background

• Oral disease consequence of inadequate oral hygiene behavior (OHB)

• Inadequate OHB very prevalent in all cultures

• Important to establish determinants, which depend on context and culture

• ‘One-size fits all’ approach will not be effective

• Identification and assessment important for developing oral health care interventions
Aim of the study

• to examine the extent to which the persuasive effects of positively and negatively framed messages designed to promote oral hygiene behavior, were moderated by:

- *promotion and prevention focus*
- *level of education*
- *country*
Method

• 155 dental patients who visited a dental faculty in Montevideo (Uruguay) and in Valencia (Spain)

- completed a multiple culturally adapted paper-and-pencil-questionnaire,
- randomly assigned to either a positively-, or a negatively-framed oral health message
Method

The *positively* framed message emphasized: the **benefits** of engaging in an adequate OHB

e.g., “individuals with an optimal OHB have a **better oral health**, which means **healthy gum, a fresh breath, younger appearance, more self-esteem**, more positive reactions in interpersonal relationships, and they have a **lower chance of undesirable outcomes**, such as cavities or pain, feelings of shame or rejection, stress and disappointment by others”
Method

The *negatively* framed message emphasized: the **costs of failing** to engage in an adequate OHB

e.g., “individuals **without optimal OHB** have a **bad oral health**, which means **bad and unhealthy teeth**, being viewed as **less intelligent, weaker**, and they have **lower chance of desirable outcomes**, such as healthy gum, no pain, et cetera”.

### Participants

<table>
<thead>
<tr>
<th></th>
<th>Uruguay</th>
<th>Spain</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>number of patients</td>
<td>80</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>67,5%</td>
<td>77,3%</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>average age (years, SD)</td>
<td>35 (14)</td>
<td>43 (10)</td>
<td></td>
</tr>
<tr>
<td>married</td>
<td>44%</td>
<td>79%</td>
<td>.06</td>
</tr>
<tr>
<td>- High / college/university training</td>
<td>50%</td>
<td>20%</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>- medium / advanced vocational training</td>
<td>43%</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>- low / vocational training</td>
<td>6,3%</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>Index for Oral Hygiene Behavior (OHB index)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- tooth brushing twice a day</td>
<td>79%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>- tooth brushing in the morning + before they go to sleep, for two minutes each time</td>
<td>75%</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>- use interdental cleaning</td>
<td>88%</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>- fluoride containing toothpaste</td>
<td>86%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>- tongue cleaning: once a day / sometimes</td>
<td>44% / 41%</td>
<td>55% / 13%</td>
<td></td>
</tr>
</tbody>
</table>
Results Promotion focus as moderator

- **Uruguayan** participants with a *high promotion focus* were more persuaded when given the positively framed message, $p = .049$

- **Spanish** participants with a *low promotion focus* were more persuaded when given the positively framed message, $p = .025$

FIGURE 1. The effect of Message Framing and Promotion on Intention to perform OHB

- **Uruguay**
  - Low Promotion
  - High Promotion

- **Spain**
  - Low Promotion
  - High Promotion

FIGURE 1. The effect of Message Framing and Promotion on Intention to perform OHB
Results Prevention focus as moderator

- In the Uruguayan samples none of the effects were significant

- Spanish participants with a low prevention focus were significantly more persuaded when given the positively message than when given the negative message, $p = .005$
Results Education as moderator

- **Uruguayan** participants with a high level of education were more persuaded when given the positively framed message, $p = .02$

- **Spanish** participants with a low level of education were more persuaded when given the positively framed message, $p = .04$
Conclusion / Discussion

• This study illustrates that message framing effects in a naturalistic setting can have differential effects depending on the individual’s promotion or prevention focus, education level and the country in which it is applied.

• Current findings support the well-established fact that messages in oral hygiene self-care intervention tailored to individual differences may be more effective than a so-called ‘one-size fits all’ approach.