# How Are We Measuring Persuasiveness on Health Interventions?

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#### 1 Introduction

One of the big challenges of health interventions is their capability of producing real and sustained changes in health-related habits, such as reducing/eliminating certain unhealthy behaviors (smoking and drinking patterns), increase others (physical activity) or promoting new ones (adherence to treatment). Some authors highlight the relevance of developing tailored

Interventions instead of generalists approaches for increasing the success in health results. According to this thread, one of the aspects to consider could be the capability of these interventions to persuade people to change their health-related behavior. Following this approach, it is crucial to count on validated tools that allows to evaluate the potential persuasiveness of health interventions that could be useful for identifying the strengths and weaknesses of health interventions and ensure their success.

## 2 Objective

The aim of this study was to review the existing validated tools for assessing persuasiveness on health interventions.

## 3 Methodology

A literature review was conducted using peer-reviewed publication databases (Medline, PsycInfo) and manual searches in search engines (Google Scholar, Google) and research networks (Research Gate). The keywords for the search were "persuas\*", "scale" or "questionnaire", "health intervention" and "validation". There were no restrictions in publication date and language. Only articles about scales/questionnaires validation were considered. Those publications related to marketing and sales were excluded from the analysis.

#### 4 Results

The results of the literature review showed a scarce number of validated questionnaires/scales for assessing persuasiveness, and only one specific tool focused on health (Boster et al., 2011).

Three main areas of assessment were identified: Person Susceptibility to Persuasion, Social Influence and Intervention Characteristics.

Regarding Person Susceptibility, assessment was centered on several personality constructs such as assertiveness, self-control or need of unique choice. When assessment focused on Social Influence, some of the elements considered were competition, social comparison or social learning. Finally, those tools centered on Intervention/Technology Characteristics assessed aspects such as design aesthetics, unobtrusiveness, quality or effectiveness. In this group of assessment tools, Letho et al. (2012) also included in their scale the perceived persuasion of the product in terms of the capability of the intervention to influence and promote changes.

Additionally, Meschtscherjakov et al. (2016) had developed the Persuasive Potential Questionnaire (PPQ) which considered both Person Susceptibility and Intervention/Technology Characteristics but focusing not specifically in design and usability but in its persuasibility elements (named as System Persuasive Potential).

Next step will be a more in depth analysis of the theoretical models for designing these assessment tools. A preliminary analysis showed that some of them were based on the Persuasive Systems Design Model by Oinas-Kukkionen & Harjumaa (2009) and on Kaptein and colleagues works.

# 5 Conclusions

There is a lack of specific validated tools for assessing the persuasiveness of health interventions. Reviewing literature, the assessment of health interventions for changing habits is mainly carried out through qualitative techniques, ad hoc surveys or analyzing health variables (engagement, reduction/increase of behavior, etc.).

According to the analysis of those validated tools identified in the study the assessment focuses on three cornerstones: personality variables, intervention/technology characteristics and social influence that usually are considered as independent elements.

Future directions could include a more comprehensive and specific research on how to assess the potential persuasiveness of health interventions in order to increase their success.

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