

Cognitive Interviews and Early Psychometric Assessment

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Overall Goals

- ▶ qualitative work → beginning of development of a psychometrically valid scale measuring exposure to tobacco media
- ▶ starting item pool
- ▶ initial refinement via cognitive testing
- ▶ initial psychometric assessment in an appropriate sample

Initial Item Pool

- ▶ 20 items measuring exposure themes, for example:
 - ▶ encouraging/discouraging tobacco use
 - ▶ awareness of messaging
 - ▶ perceptions of warning labels
- ▶ 13 measuring media sources, for example:
 - ▶ television
 - ▶ magazine
 - ▶ on-line
- ▶ 12 measuring exposure location, for example:
 - ▶ bus
 - ▶ gas station

Cognitive Interviewing

“... cognitive interviewing entails administering draft survey questions while collecting additional verbal information about the survey responses, which is used to evaluate the quality of the response or to help determine whether the question is generating the information that its author intends.” (from Beatty & Willis, 2007, citing Beatty, 2003).

Cognitive Interviewing Method

- ▶ two rounds
- ▶ $N=9$
- ▶ mixed gender and race/ethnicity
- ▶ adults (25–63 years old)

Example Items

Which of the following types of messages have you seen, heard, or read in the past 30 days? Select all that apply.

1. Messages that show graphic images of the health effects of smoking cigarettes such as disease or early death?
2. Messages that seem to promote smoking as a personal choice?
3. Messages about a family member (e.g. a wife or husband, parent, or child) or friend who is trying to help another family member or friend to quit smoking?
4. Messages about a family member (e.g. a wife or husband, parent, or child) or friend who is worried about the smoking habit of another family member or friend?
5. Messages for cigarettes or other tobacco products that feature thin, healthy-looking people or sexy or cool looking people?
6. None of these

On-line Pilot Test

Following cognitive interviewing, piloted the instrument among the demographic groups originally interviewed.

Sample Characteristics

Sample selection stratified by:

- ▶ gender
- ▶ demographic groups: African American, Native American, Hispanic, low educated White/Other
- ▶ age: 25-34, 35-44, 45-54, 55-64 years

N=1,821

Message Results

Results omitted from version available on-line.

Media Channel and Location Follow-up

Media examples:

- ▶ National daily newspaper
- ▶ Local daily
- ▶ Television
- ▶ Radio
- ▶ Internet
- ▶ Billboard, ad on bus
- ▶ Movies on TV
- ▶ Movies in a theater

Location examples:

- ▶ Store
- ▶ Gas station
- ▶ Bus
- ▶ Train or subway
- ▶ Sporting event
- ▶ Music concert

Channel and Location Results

Results omitted from version available on-line.

Next Step: Psychometrics

- ▶ variability in the exposure, channel and locations
- ▶ next want to examine psychometrics of the scale

Psychometrics Overview

- ▶ reliability
- ▶ validity
- ▶ measurement invariance

Want a measure of media exposure appropriate to use across demographic and social groups.

Outstanding Questions for Psychometric Work

What latent variable model will best correspond to construct of media exposure?

- ▶ factor/item response model
- ▶ latent class/mixture model

How to use media channel and location items?

- ▶ exposure predictors/covariates?
- ▶ validity checks?
- ▶ exposure indicators?

Scale Development Case-study

This work is an exemplar of scale development:

- ▶ mixed methods
- ▶ diverse population groups from the start
- ▶ atypical psychometrics assessment

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