Development and Validation of the Smoker Self-Stigma Questionnaire (SSSQ)

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Abstract

Whereas smoking denormalization health messages and anti-smoking policies are believed to be largely responsible for the long and sustained smoking-rate declines observed in the United States (U.S.), recent research demonstrates that these strategies may have been less effective in rural America, where smoking rates have stagnated, particularly among women. There is also the possibility is that anti-smoking campaigns and policies may even backfire within specific segments of the population by further stigmatizing already marginalized individuals. Such scenario could certainly play out in rural America, which carries a large, disproportionate burden of socioeconomic and psychosocial determinants of life-course disadvantages in the U.S. Unfortunately, the field lacks a tool to measure smoking related stigma in smokers and, thus, the capability of studying the extent to which smoking stigma may impact vulnerable populations.

This poster narrates the development of a theoretically grounded and psychometrically sound measure of smoking stigma. Our stages of development follow recommendations from Artino et al. (2014), including: (1) A comprehensive literature review to determine theoretical grounding of the construct, stigma (2) Identifying previous scales with items that might be used or adapted (3) Learning from qualitative research how the population of interest describes the construct (4) Developing items in accordance with best practices (5) Contacting experts for feedback on clarity and relevance of items. We then present some preliminary results based on this expert feedback.

Introduction

It is estimated that the ongoing tobacco epidemic kills between 480,000 and 556,000 United States (US) residents a year (Carter et al, 2015). In addition, US healthcare costs attributable to smoking total nearly US $170 billion annually, and lost productivity contributes another US $156 billion (CDC, 2019). Though US cigarette smoking has been in decline since the 1970's, significant disparities exist across segments of the population. One such segment is residents of rural areas. Recent findings indicate rural residents smoke at higher rates than their urban counterparts, even when controlling for known psychosocial risk factors. This disparity also appears to be increasing, exacerbating the substantial health-related disparities that rural residents already face. Of particular concern, smoking rates for rural women are no longer even declining (Cepeda-Benito, 2018).

For years policy makers and public health officials have combatted the tobacco epidemic with denormalization strategies. These strategies include public smoking bans, mass media campaigns, and combatting messaging from the tobacco industry (Malone et al., 2012). However, concern is mounting that these strategies are ineffective or even counterproductive at reducing smoking rates within already marginalized populations. These populations, already the subject of societal stigma, are at risk of further stigmatization through our established tobacco denormalization strategies. Unfortunately, empirically validation of this concern is difficult without a theoretically grounded and psychometrically sound measure of smoking stigma.

Methods

Theoretical Grounding

Our scale measures self-stigma as conceptualized by Bos et al. (2013). Self-stigma is impacted by:

Enacted stigma - The frequency and intensity of negative treatment a person receives

Felt stigma - The person's sense of consciousness of being stigmatized in subtle and overt ways and the anticipation of stigmatization

Internalized stigma - The endorsement of negative messages by the stigmatized person.

Item Development

To assist in developing items for our scale, we consulted three sources. These sources each provided a different perspective on how stigma may manifest in the lives of smokers:

(1) Existing scales measuring stigma in related populations
(2) Qualitative research detailing the experience of stigma in diverse populations of smokers
(3) Reviews detailing strategies used to denormalize the tobacco industry, smokers, and smoking

Details of each source are provided below.

Existing Scales	Qualitative Literature	Denormalization Literature
- 13 Scales measuring stigma related to substance use, alcohol use, smoking, gambling, and obesity - 223 unique items	- 13 studies detailing smoking stigma in racial minorities, sexual minorities, pregnant women, mothers, fathers, lung cancer patients, and low SES smokers	- Three comprehensive, well-cited reviews describing efforts like public smoking bans, mass media campaigns, and combatting messaging from the tobacco industry.

Each source was independently analyzed by one member of the three-member research team. From this analysis, the researcher identified stigma-related themes that are potentially commonly experienced by or attributed to cigarette smokers. Eighty-three unique themes were identified

Examples of identified themes are provided below.

Existing Scales	Qualitative Literature	Denormalization Literature
- Alienation, Disgust, Resignation, Shame, Inferiority, Laziness, Worthlessness, etc.	- Powerlessness, Ugliness, Hate, Career Discrimination, Cleaning Rituals, etc.	- Ostracism, Being Stereotyped, Regret, Smoking Restrictions, Concealment, etc.

The researchers then independently generated up to 3 items per theme, dependent on the perceived applicability of Bos et al.'s (2013) facets of stigma (*enacted, felt, internalized*) to the theme. Some of these items were also adaptations of items from the existing scales consulted earlier. Each item generated by each researcher was then collaboratively scrutinized by the research team for its applicability, novelty, grammar, and categorization within the Bos et al. (2013) framework. Through this process thee research team decided by consensus which items would be retained for further testing. Eighty-eight unique items were retained.

Examples of some final items are provided below.

| Enacted Stigma	Felt Stigma	Internalized Stigma
- People have told me I should just quit - Some anti-smoking ads are meant to demonize smokers	- I often feel judged by others for smoking - I constantly worry about people smelling tobacco on my clothes	- I lack the willpower to quit smoking - Smoking makes me a less desirable partner

Expert Feedback

We then distributed our items to academic researchers of tobacco use, to elicit expert feedback via a Qualtrics survey. For each item, we asked the experts to:

(1) Rate the **likelihood** that the item is reflective of smokers' common experiences (1-4 scale, from inconceivable to very likely)
(2) **Categorize** each item into one of three facets of stigma provided by the Bos et al. (2013) framework (enacted, felt, internalized)

Preliminary Results

Thirteen experts provided feedback, each examining approximately two-thirds of the final eighty-eight items. This resulted in each item being analyzed by 8 or 9 experts.

On average, across all items, experts rated our items a **3.12** (out of 4) on likelihood and agreed with our categorization **52.15%** of the time. Based on the feedback we received we eliminated all items scoring below a 3 on likelihood within each facet of stigma. We then eliminated items with the lowest amount of agreement until reaching 15 items per facet. This resulted in 45 items with an average likelihood of **3.34** (out of 4) and categorization agreement of **60.37%**. Breakdowns for each facet of stigma are shown below, both for all items and items retained after expert feedback..
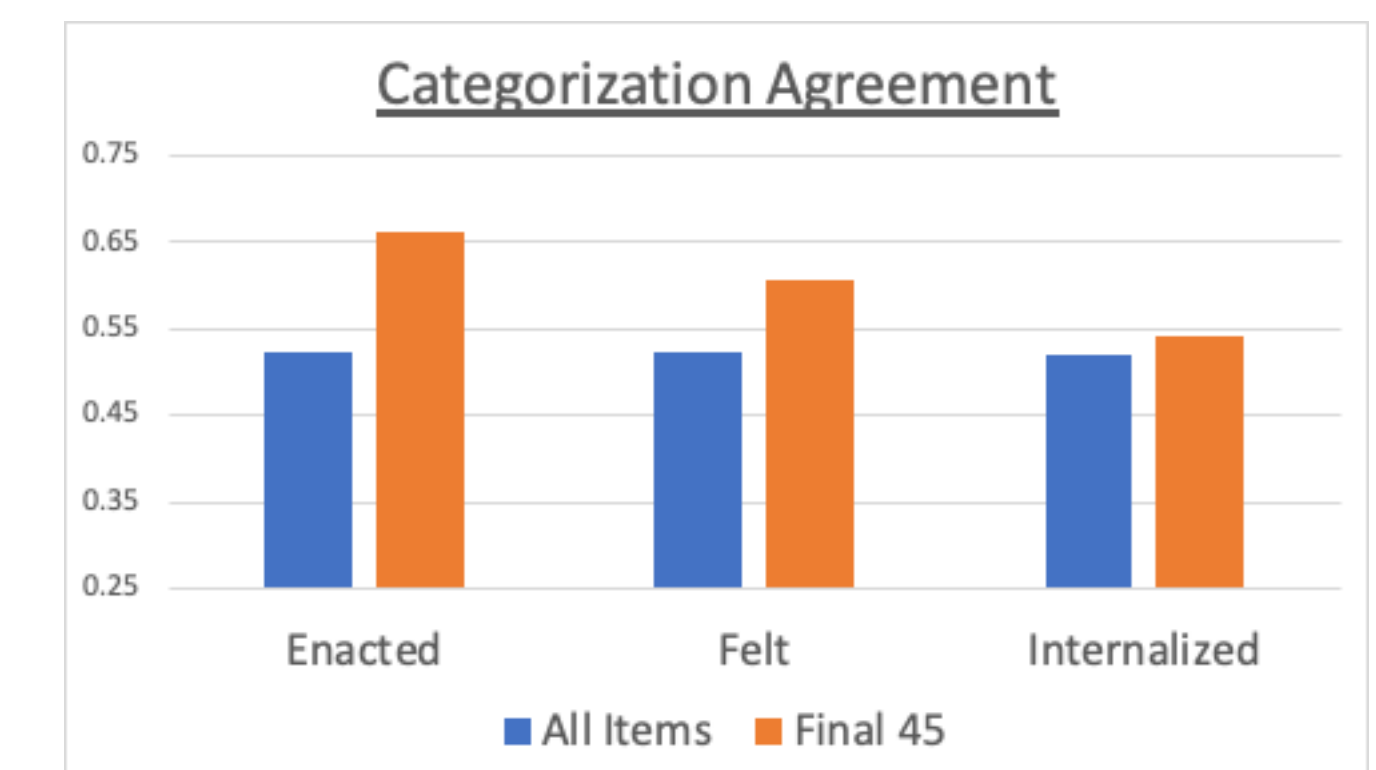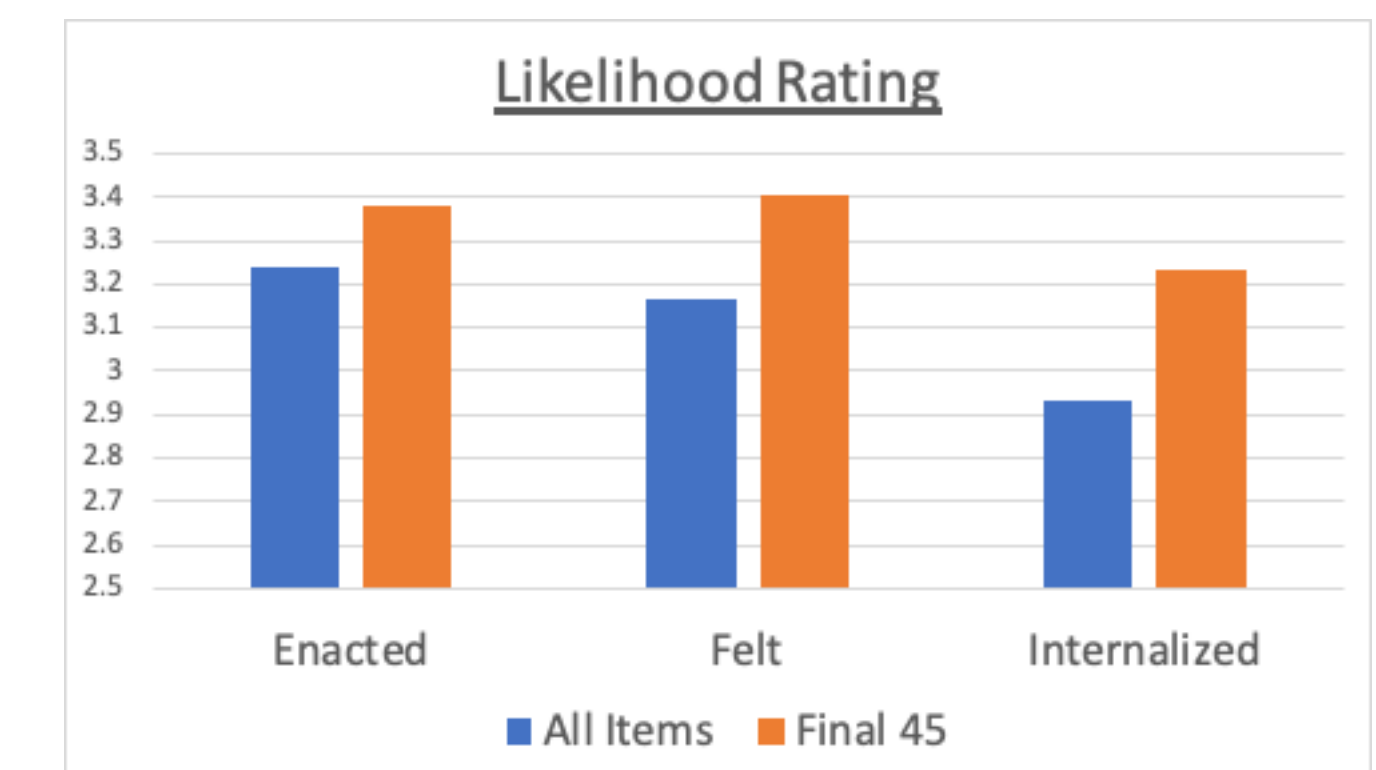
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