



Does self-efficacy causally influence initial smoking cessation? An experimental study[☆]



William G. Shadel^{a,*}, Steven C. Martino^a, Claude Setodji^a, Daniel Cervone^b, Katie Witkiewitz^c

^a RAND Corporation, 4570 5th Avenue, Pittsburgh, PA 15213, United States

^b Department of Psychology, University of Illinois at Chicago, 1007 West Harrison Street (M/C 285), Chicago, IL 60607-7137, United States

^c Department of Psychology, University of New Mexico, 1 University of New Mexico, Albuquerque, NM 87131, United States

ARTICLE INFO

Keywords:

Smoking cessation
Self-efficacy
Outcome expectancies
Social-cognitive theory

ABSTRACT

Self-efficacy has been associated with smoking cessation outcomes in many correlational research studies, but strong causal inferences are lacking. This study tested whether self-efficacy affects initial smoking cessation in a laboratory experiment, which will allow for stronger causal inferences in this domain of inquiry. Participants ($n = 103$ motivated adult smokers) were provided with brief cessation treatment over three days in preparation for quitting on a target quit day (TQD). In addition, participants were randomized to one of two standard self-efficacy manipulations in the form of bogus feedback about their chances of quitting smoking. Participants in the Average Chances of Quitting (ACQ) condition took a computerized test and were told (falsely) that the test showed that they had the same chances of quitting as everyone else in the study. Participants in the High Chances of Quitting (HCQ) condition took the same computerized test and were told (falsely) that the test showed that they had a greater chance of quitting compared to everyone else in the study. The main outcome was whether participants were able to quit for 24 h on the TQD. Results revealed that HCQ participants had a significantly greater chance of quitting smoking compared to ACQ participants. However, these effects were not attributable to changes in self-efficacy brought about by the manipulation. An exploration of other potential mediators showed that the manipulation actually influenced smoking outcome expectancies, and changes in these outcome expectancies influenced initial smoking cessation. The results highlight the conceptual and empirical challenges with manipulating self-efficacy in the smoking literature.

1. Introduction

Self-efficacy is important in theories of smoking cessation and relapse (e.g., Brandon, Irvin Vidrine, & Litvin, 2007; Niaura, 2000; Witkiewitz & Marlatt, 2004). Self-efficacy is typically operationalized as smokers' confidence to refrain from smoking in different situations (Gwaltney et al., 2001); confidence to quit smoking (Niaura & Shadel, 2003); or confidence to maintain abstinence (Herd, Borland, & Hyland, 2009). Results from myriad cross-sectional and prospective correlational studies show that self-efficacy is a consistent, if modest, predictor of smoking cessation outcomes (Gwaltney, Metrik, Kahler, & Shiffman, 2009).

Basic social-cognitive theory asserts that self-efficacy plays a central, causal role in human behavior (Bandura, 1977, 1997). Experimental research from a variety of domains outside of smoking supports this assertion (e.g., Cervone & Peake, 1986; Hansen & Wänke, 2009; McAuley, Talbot, & Martinez, 1999; Vancouver, Gullekson,

Morse, & Warren, 2014). A critical problem for the smoking literature, though, is that experimental evidence supporting a strong causal inference for a relationship between self-efficacy and smoking cessation is lacking (Gwaltney et al., 2009). Further complicating matters, some studies have suggested that self-efficacy is more likely a reflection of smoking rather than a cause (Romanowich, Mintz, & Lamb, 2009) or both a reflection and driver of behavior (Perkins, Parzynski, Mercincavage, Conklin, & Fonte, 2012).

The present study experimentally evaluated whether self-efficacy influences initial smoking cessation. Based on research findings outside of smoking (e.g., Bandura, 1997, 2006), we hypothesized that smokers who were assigned to a condition that was designed to increase their self-efficacy would have greater success with initial quitting compared to smokers assigned to a condition that was designed to have no effect on their self-efficacy.

[☆] Portions of this research were presented at the Annual Meeting of the Society of Research on Nicotine & Tobacco in Philadelphia, PA in February 2015.

* Corresponding author at: RAND Corporation, 4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213, United States.

E-mail address: shadel@rand.org (W.G. Shadel).

2. Methods

2.1. Participants

Individuals were recruited using media advertising and were eligible if they: (1) were 18–65 years old, (2) smoked nearly every day for the last five years, (3) currently smoked ≥ 15 cigarettes/day, (4) had at least one previous quit attempt lasting ≥ 48 h, and (5) were motivated to quit smoking, indexed by a score ≥ 120 based on their responses to two questions (each scaled from 0 to 100, where 0 = not at all and 100 = extremely): “How motivated are you right now to quit smoking?” and “How confident are you right now to quit smoking?” (Shadel et al., 2011). Individuals were excluded if they: (1) were currently receiving help for quitting smoking or (2) had been treated for any serious medical and/or psychological condition in the last 12 months. Women who were pregnant or planning to become pregnant in the next 30 days were excluded.

2.2. Procedures

2.2.1. Design overview

This research was approved by the IRB at RAND. The study involved an authorized deception. Participants were told, during informed consent, that there were aspects of the study that they could not be told about initially because that knowledge could affect the study results (i.e., they were not told what the manipulation was designed to do). They were also told that they would be debriefed about the true purpose of the study at its end. Thus, individuals who agreed to participate did so with knowledge that they were not being told every detail about the study, but that they would receive such details at the study's end.

All participants were provided with brief smoking cessation treatment on each of three days (Days 1–3) in preparation for quitting smoking on Day 6 (TQD). Participants who quit on the TQD were followed for four more days (Days 7–10) to track time to first smoking after cessation.¹ In addition, all participants were randomized to one of two experimental conditions in which they were given bogus feedback on Days 1, 2, 3 and 6 about their chances of quitting smoking (see below). The main outcome was whether participants were able to quit for 24 h on the TQD. Participants could earn up to \$275 for completing the study procedures.

2.2.2. Brief smoking cessation treatment

A three-session, group-based cognitive-behavioral smoking cessation treatment was provided on each of three days (Days 1–3). Led by PhD-level psychologists, each session lasted 15–20 min. Content included managing smoking triggers, coping with high risk situations, and preparing for TQD (see Brown, 2003; Shadel & Niaura, 2003).

2.2.3. Experimental manipulation

Bogus feedback has been widely used as a way to manipulate self-efficacy in the broader social-cognition literature (e.g., Bach, Brown, & Barlow, 1999; Hu, Motl, McAuley, & Konopack, 2007; Hutchinson, Sherman, & Martinovic, 2008; McAuley et al., 1999). Prior studies have shown that bogus negative and positive comparative feedback (i.e., compared to others) provided independent of actual performance, contributes to perceptions of competence and performance (see Bandura, 1997). We adapted these well-established experimental strategies from the broader social cognition literature for the current study. Participants were told that they would be taking a computerized test that measures “how confident people are in their

¹ Too few participants achieved a 24-hour abstinence period on the TQD to support a meaningful time-to-first smoking by condition analysis through Day 10. Thus, the focus in this paper is on predicting initial 24-hour quitting.

ability to quit smoking and that the test results predict whether people will be able to quit or not”. The test was a reaction time task in which participants were asked to quickly decide (by pressing a button) if each of a list of 24 words was related or unrelated to smoking. This test was constructed specifically for the purpose of providing bogus feedback to participants in this study, and it has no known relation to smoking outcomes. Everyone took the same computerized test on Days 1–3 and 6, and received bogus feedback each day about their chances of quitting; feedback was delivered both verbally and visually via graphs. On Day 1, feedback was the same for participants in both conditions.

All participants, Day 1: “Great! You can see here that right now the test predicts you have about the same chances of quitting as everyone else. That's about what we'd expect at this point in the study, and you are right in-line with the other participants. Your chances of quitting are the same as everyone else's.”

On Days 2, 3, and 6 feedback differed depending on experimental condition. Participants in the *Average Chance of Quitting Feedback* (ACQ) condition were told the test results indicated that they had the same chances of quitting as everyone else in the study and that their chances of quitting remained about the same as it was at the previous measurement.

ACQ, Day 2: “Ok, your score improved very little since last time – right now the test predicts that you still have about the same chances of quitting compared to everyone else. You can see that you did about as well as most of the other participants. Your chances of quitting are still about the same as everyone else's”.

ACQ, Day 3: “Although your score improved a little bit since last time – right now the test predicts that you still have about the same chances of quitting as everyone else. You can see that you're doing about as well as most of the other participants. Your chances of quitting are still about the same as everyone else's”.

ACQ, Day 6: “Hmmm. Your score is a little bit lower than last week; everyone else's scores also dipped slightly. Right now the test predicts that you have about the same chance of quitting compared to everyone else. You still did about as well as most of the other participants, and your chances of quitting are similar to everyone else's. But remember, there are a lot of things that factor into a successful quit attempt, and your score on this test is only one of them.”

Participants in the *High Chances of Quitting Feedback* (HCQ) were told that the test results suggested that they had greater chances of quitting compared with everyone else in the study and that their chances of quitting improved over the three days before the TDQ.

HCQ, Day 2: “This looks good. Your score improved since last time – right now the test predicts you have a slightly better chance of quitting compared to everyone else. That's great! Also, you can see that you did better than most of the other participants. Your chances of quitting are slightly better than everyone else's.”

HCQ, Day 3: “Great! Your score improved again – right now the test predicts you have a much better chance of quitting compared to everyone else. This is really good news. And just like last time, you did better than most of the other participants. Your chances of quitting are much better than everyone else's.”

HCQ, Day 6: “Wow! Your score has really improved since last time! Right now the test predicts that your chances of quitting are better than almost everyone else. Your hard work is paying off. And just like before, you did better than most of the other participants. Your chances of quitting are very good, and much better than almost everyone else's.”

2.3. Measures

2.3.1. Demographics

Gender, age, race/ethnicity, and education were assessed on Day 1.

2.3.2. Smoking and quitting history

Number of cigarettes smoked per day in the last month, number of years smoked, and past year 24-hour quit attempts were assessed on

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات