

Measuring the Impacts of Self Efficacy and Perceived Health Benefits toward Smoking Cessation of e-Cigarettes

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ABSTRACT

Objective – Smoking is one of the most preventable causes of disease and death, including cancer. This study aimed to investigate whether perceived health benefits and self-efficacy affects e-smoking cessation.

Methodology – The method used in this research is quantitative using an online survey started in November 2020. From 50 distributed questionnaires using Google Form link, only 34 responses are valid.

Findings – The results reveal that self-efficacy, not perceived health benefits, had a significant influence on intention to quit smoking.

Novelty – This study extends our understanding of this relationship by highlighting the non-significant result in the health benefits–smoking cessation linkage.

Keywords: Self Efficacy; Health Benefits; Smoking Cessation

JEL Classification: E30, L66, L81

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I. INTRODUCTION

Electric cigarettes are now commonly consumed, and they draw cigarette smokers away from a dangerous habit. One argument is that e-cigarettes do not contain toxins like conventional cigarettes do (U.S. Food and Drug Administration, 2016). The effectiveness of e-cigarettes to influence smoking cessation are still a controversy. From past study, it was found that those who smoke e-cigarettes with nicotine have a higher chance to stop smoking compared with those with nicotine-free ones (McRobbie et al., 2014). According to Cadet's (2019) study, abstinence in smoking e-cigarettes was discovered higher compared with the nicotine-replacement samples. Meanwhile, another study discovered no abstinence in e-cigarette users (Protano et al., 2017). Nevertheless, both treatments showed low-quality evidence for efficacy (Bullen et al., 2013). At present, there is inadequate data to generalize about efficacy for smoking cessation involving e-cigarettes (Ibrahim et al., 2020). Hence, the importance of assessing the relationship between efficacy and smoking cessation.

The question is whether e-cigarettes possess different risks and benefits. To switch from conventional to e-cigarette is expected to reduce risks to health (McNeill et al., 2018). Reasons for trying e-cigarette use by adolescents list curiosity as the top reason, while some claimed health benefits (Bold et al., 2016; Romijnders, et al., 2018). Perceptions of e-cigarettes have been less harmful and addictive, yet they are

effective to motivate smokers to actually quit smoking (Glasser et al., 2017). Therefore, it is essential to study the relationship between health perceptions and intention to quit smoking. To address this gap, this paper tries to shed light on whether the smokers' self-efficacy and perceived health benefits would have an impact on smoking cessation within this context.

II. LITERATURE REVIEW

One of the most important components of a successful smoking cessation program is self-efficacy with relation to the goal to stop. In any event, studies have found a tenuous link between self-efficacy and the desire to stop smoking. The goal of the current study was to clarify this tenuous connection by speculating on the conflicting effects of self-adequacy with regard to the desire to cease. Although self-efficacy was truly linked to the desire to stop, it was negatively linked to risk perception, weakening the desire to cease. This model makes it clear how self-adequacy generally has no effect on the anticipation to stop. Self-efficacy, or a person's anticipation about their capacity to comprehend such conduct (Bandura, 1977), is seen as a crucial element in defining the goal of engaging in a behavior and in actually engaging in a behavior. Numerous theories and models, such as the wellbeing activity measure approach, the health belief model, and the notion of planned behavior (Ajzen, 1991), among others, draw attention to this (Schwarzer, 2008). Self-efficacy is believed to predict intention and conduct, such as dietary behavior and eating nutritious food, according to a number of observational studies (McDermott et al., 2015; Povey et al., 2000). However, in contrast to what was predicted by these hypotheses and models, a meta-explanatory analysis found that self-efficacy had shockingly negligible effects on smoking cessation when it was assessed before people stopped smoking. However, when self-efficacy was assessed after smokers had stopped, it was found to predict successful smoking cessation (Gwaltney et al., 2009). Similar to this, board examinations conducted by Hyland et al. (2006) and West et al. (2001) revealed that self-efficacy had no independent influence on attempts to quit smoking or on smoking cessation before persons quit smoking. Since people have limited capacity to predict how they would feel or act in circumstances different from their current ones, Gwaltney et al. (2009) explained that judgements on self-efficacy made before stopping may be influenced by unreasonable goals. In addition, multiple studies have not found a strong link between self-efficacy and intention to stop smoking (Rahman et al., 2018; Rise et al., 2008; Van Den Putte et al., 2011). Together, these findings suggest that among current smokers, self-efficacy does not predict intention to quit smoking or smoking cessation. Therefore, the purpose of the current study was to examine how self-efficacy relates to the intention to stop smoking.

A well-known social-psychological model of human conduct, the Theory of Planned Behavior (e.g., Ajzen, 1991) is built on five main components: attitudes, subjective norms, perceived behavior control, intentions, and behavior. It is believed that behavioral intentions are influenced by attitude, subjective standards, and perceived behavior control, which in turn are believed to have a more direct impact on behavior (Passafaro et al., 2019). In order to examine the relationships between the variables and explain customers' purchase intentions of green skincare products, Hsu et al. (2017) established a theoretical framework based on the TPB model. Buyers' intent to engage in an exchange relationship, such as information sharing, sustaining commercial contacts, and initiating business transactions, is known as the intention to transact or purchase (Zwass, 1998). According to Ling et al. (2010), customers' online buy intentions are influenced by their shopping preferences, their level of online trust, and their prior online shopping history. To overcome the frictions of distance and time and achieve ownership of goods and services, Kelley (1958) defined convenience cost as the investment of time, physical and nervous energy, and money. He also described four forms of location convenience, one of the ten types of convenience. According to Brown and McEnally (1992), convenience is a two-dimensional construct that is organized into the phases of acquisition, use, and disposal. It is defined as a reduction in the amount of consumer time

and/or energy required to acquire, use, and dispose of a product or service relative to the time and energy required by other offerings in the product/service class (Li, 2015). Price determines the competitive position and is a potent competitive weapon when numerous businesses compete for the same consumer with homogeneous product offerings (Dolan & Simon, 1996; Kotler, 2003). It will be assessed to see if price differences between cosmetic goods sold in drugstore chains and other stores have an impact on customers' decision to purchase.

Hypothesis Development

The relationships between self-efficacy and risk perception and between self-efficacy and intention are likely to differ for each individual smoker, as is to be expected. According to Messer, Trinidad, Al-Delaimy, and Pierce (2008), highly dependent smokers exhibited lower intentions to stop than did less dependent smokers, suggesting that the smoker's dependence may be the major component influencing the effect of self-efficacy on intention to stop. Perceived self-efficacy and motivation to stop smoking were found to be correlated, according to research by Melizza et al. (2020). Therefore, the more smokers rely on themselves, the more likely it is that they will use that as a risk-reducing mechanism to help them keep smoking rather than try to stop. Accordingly, reliance is anticipated to influence both the relationship between self-efficacy and intention to stop smoking as well as the relationship between self-efficacy and risk perception. Based on the discussion, this study's first hypothesis is:

H1: Self-efficacy affects e-smoking cessation.

The effectiveness of smoking cessation programs has only been demonstrated for brief periods of time. Understanding the advantages that connect to motivation to stop lays the groundwork for boosting that drive (Weinberger et al., 2010). Making the best use of the available medical services is one of the indicators of a successful quit attempt (Caponnetto & Polosa, 2008). If these devices can lessen the negative effects of smoking, smokers, medical professionals, and regulators are all interested in knowing. It is crucial for healthcare professionals in particular to understand what recommendations to give smokers. Based on the discussion, this study's second hypothesis is:

H2: Perceived health benefits affect e-smoking cessation.

III. METHODOLOGY

This preliminary paper is based on primary data. The survey comprises a consent form, brief explanation of the survey, items of the questionnaire, and demographic characteristics of the respondents. To measure each variable, we adopt the measurements taken from previous literature. The scale will be based on a five-point Likert-type scale ranging from 1 ('agree completely') to 5 ('disagree completely') to compromise with the frustration level of the respondents. The original items were in English and translated into Bahasa Indonesia. The dimensions are adapted from previous studies (Bandura, 1997; Becker, 1974; Piasecki & Baker, 2001).

IV. RESULTS AND DISCUSSION

Table 1 shows the factor loadings and cross loadings for different constructs. Most of the factor loadings for the variables were greater than 0.70 in their own constructs in the model, showing that all constructs met the criteria of convergent validity analysis (Henseler et al., 2009). We had to take out several items below 0.5 (Efficacy1, Efficacy2, Efficacy4, and Efficacy5) and kept those more than 0.5 as they are acceptable (Hair et al., 2010).

Table 1. Factor Loadings

Construct	Efficacy	Benefits	Intention
Efficacy3	0.535		
Efficacy6	0.862		
Efficacy7	0.853		
Efficacy8	0.777		
Efficacy9	0.733		
Benefits1		0.926	
Benefits2		0.963	
Benefits3		0.924	
Benefits4		0.964	
Intention1			0.898
Intention2			0.901
Intention3			0.734
Intention4			0.930

This study also checked one-dimensionality, reliabilities, and validities of the measurement model before testing the structural model (Table 2). The level of internal consistency in each construct was very good, with Cronbach’s alpha estimates ranging from 0.824 to 0.960 (Hulin et al., 2001). All of the composite reliabilities of the constructs were over the cutoff value of 0.70, ensuring adequate internal consistency of multiple items for each construct (Hair et al., 1998). In addition, the average variance extracted (AVE) of all constructs exceeded the minimum criterion of 0.50, indicating that a large portion of the variance was explained by the constructs (Fornell & Larcker, 1981; Hair et al., 1998).

Table 2. Reliabilities and Validities

Construct	Cronbach’s Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Benefits	0.960	0.979	0.971	0.892
Efficacy	0.824	0.893	0.871	0.580
Intention	0.889	0.899	0.925	0.756

As the next step, the proposed structural model was estimated (Figure 1, Table 3). Hypothesis 1, which hypothesized a positive relationship between self-efficacy and smoking cessation, was supported ($t = 2.670$; $p < 0.05$). In contrast, hypothesis 2 for predicting a positive relationship between perceived health benefits and smoking cessation was not supported ($t = 1.583$; $p < 0.05$).

Table 3. Structural Parameter Estimates

Construct	Beta	Mean	Std. Deviation	T Statistics	P Values
Efficacy → Intention	0.440	0.480	0.165	2.670	0.008
Benefits → Intention	0.251	0.227	0.158	1.583	0.114

In Figure 1, the results showed that self-efficacy was significantly positively related to intention to quit e-smoking. Therefore, H1 was confirmed. On the other hand, from the figure we can see that the dotted lines suggest a non-significant direct effect of perceived health benefits on intention to stop e-smoking. Thus, H2 was not confirmed.

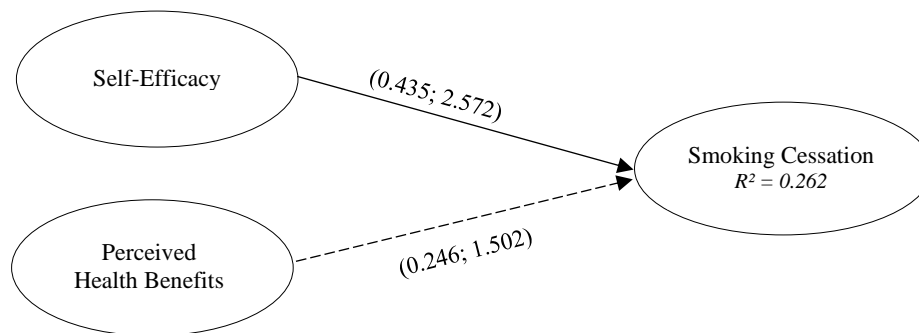


Figure 1. The Result of Hypothesis Test

V. CONCLUSION

The aim of this conceptual study is to provide an overview of the factors that influence behavior of e-cigarette smokers based on the viewpoints of the Theory of Planned Behavior, and to propose an inclusion of self-efficacy to replace perceived behavioral control and perceived health benefits to replace subjective norm from the existing theoretical format. This current research was the same in logic with another one carried out by Melizza et al. (2020), self-efficacy variable was closely interlinked to the intention of quittance from smoking. Thus, opined that the respondents found to possess high self-efficacy were highly motivated to quit smoking. By contrast, perceived health benefit of stopping smoking is independent of self-efficacy. Health was not found to motivate the e-smokers to quit. This is surprising as health is the most common reason for quitting smoking. More research is needed on these possible interrelationships. This study contributes to the growing literature of smoking cessation experiences, specifically in Indonesian smokers.

Because the participants were all Indonesians, were chosen from the same geographic area and time period, and were recruited based on neighborhood risk for delinquency, generalizability may be constrained. It is advised to conduct more research to look for any potential links or factors that might make quitting e-smoking more challenging.

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