Rationalization and Regret among Smokers in Thailand and Malaysia

by

Wonkyong Beth Lee

A thesis
presented to the University of Waterloo
in fulfilment of the
thesis requirement for the degree of
Doctor of Philosophy
in
Psychology

Waterloo, Ontario, Canada, 2006

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

The current study examines two psychological experiences—rationalization and regret—among smokers from Thailand and Malaysia and the behavioural impact of rationalization and regret—intentions to quit. More specifically, the goals of the study were not only to examine differences between the two countries in rationalization, regret, and intentions to quit, but also to explain country differences by using the psychological constructs of social norms and the cultural psychological construct of collectivism (via mediation and moderation analyses). The data were from the International Tobacco Control (ITC) Policy Evaluation Southeast Asia Survey, a cohort survey of representative samples of adult smokers in Thailand (N = 2,000) and Malaysia (N = 2,006). The ITC Southeast Asia Survey was conducted January-March 2005. Participants were asked to complete a 40-minute in-person survey.

Thai smokers were more likely to have intentions to quit smoking than Malaysian smokers and this country difference in quit intentions were, in part, explained by differences between the two countries in rationalization and regret, and that those variables, in turn, were significant predictors of quit intentions. Next, the psychological constructs of social norms and the cultural psychology construct of collectivism were used to explain the country differences in rationalization and regret. Thai smokers were more traditional and family oriented (high in vertical collectivism) and thus, they are more sensitive about their social norm and familial rejections about smoking. This,

in part, contributed the fact that Thai smokers, compared to Malaysian

smokers, were less likely to rationalize and more likely to regret smoking.

Finally, the predictive models of rationalization and regret for Thailand and

Malaysia were mirror images.

The current study points to the importance of understanding smokers'

rationalization and regret. Rationalization and regret are negatively related and

have an important implication for future behaviour. Different social norms

against smoking, which are shaped by different regulatory environments and

cultural values, contribute to the country differences in rationalization and

regret. This study has demonstrated the benefits/value of psychological

constructs in understanding smoking in a cultural context.

ACKNOWLEDGEMENTS

I am deeply grateful to my thesis co-supervisors, Geoff Fong and Mark Zanna. Geoff's enthusiasm and patience towards both research and students has inspired me profoundly. I am thankful to Mark for his sheer insights and integral view on human behaviour, which have shown me how cool it is to study social psychology. I would also like to thank the other members of my Ph.D. committee that provided me with valuable comments and constructive feedback: Steve Spencer, Richard Eiser, and Mark Havitz.

I gratefully acknowledge Geoff Fong's health lab members and ITC project collaborators. Without the substantial contributions made by each of them, this thesis would not be actualized.

I feel a deep sense of gratitude for my father and mother who have taught me how to find happiness in life and who are my everlasting inspirations. I am grateful for my brother, Won-Ho, sister-in-law, Sun-Rim, extended family, and friends for their endless love and boundless support.

I am very grateful for my Tim. His love, as well as emotional and practical support, made writing my thesis less stressful and more enjoyable. I am very excited about our life together and the experiences ahead of us.

Finally, running kept my sanity during the pursuit of my Ph.D. In a way, running and doing a Ph.D. share similarities. If you persevere, you can finally reach a "runner's high"!

DEDICATION

This thesis is dedicated to my father, whose love, positive attitude, and perseverance are still alive in me.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

Tobacco is a highly addictive and deadly substance. Most smokers smoke tobacco habitually and find it difficult to quit smoking. Tobacco use is the cause of one in five cancer deaths and smokers have a high risk of death from various types of cancers and other fatal diseases (Mackay, Jemal, Lee, & Parkin, 2006). Globally, more than 1.1 billion people are current smokers. If current smoking trends continue, it is estimated that tobacco use will be attributable for roughly 10 million deaths each year by 2020, and 70 percent of these deaths will take place in developing countries (Mackay, Eriksen, & Shafey, 2006).

Rationalization and regret are the most common and important psychological experiences among smokers. An understanding of rationalization and regret can produce valuable insight towards reducing the global tobacco epidemic. Even though rationalization among smokers has been vigorously studied, another psychological experience, regret, has received little attention among researchers. Rationalization and regret are conceptually related to each other. Yet, no study, to my knowledge, has empirically studied these two psychological experiences among smokers simultaneously. The main goal of the current study is to precisely broaden our knowledge of these psychological experiences among smokers.

1.1 Cognitive Dissonance in Smokers

The 1964 U.S. Surgeon General's report linked smoking to lung cancer and substantially heightened people's awareness about the risks of smoking, thereby leading many smokers to become increasingly "health concerned" (U.S. Surgeon General's Advisory Committee on Smoking and Health, 1964). Since then, the evidence linking smoking and various health consequences has greatly accumulated. Generally speaking, smokers are aware that smoking is a deadly addiction and most want to quit. Despite smokers' general awareness of the potential health consequences and their desire to quit, most quit attempts fail.

Recognizing that smokers are engaged in behaviour that is generally understood to be harmful to their health, smokers are likely to experience unpleasant emotions. Indeed, the vast majority of smokers express that they would like to stop smoking (U.S. Department of Health and Human Services [USDHHS], 1987). Many smokers report that they have tried to stop smoking in the past, but only 3-5% of smokers quit successfully and most smokers continue smoking (Centre for Disease Control and Prevention, 2002; Health Canada, 2002; Hyland et al., 2004). When smokers are confronted with the discrepancy between their desires to quit and their continuing smoking behaviour, they are likely to experience cognitive dissonance.

Cognitive dissonance theory explains that when people have inconsistent thoughts, they experience psychological discomfort that motivates them to reduce the discrepancy between thoughts (Festinger, 1957). Cognitive discrepancies among smokers can be reduced by increasing the consonant cognition, by decreasing dissonant cognitions, by decreasing the importance of dissonant cognition, by increasing the importance of consonant cognitions, or by using some combination of all of these methods.

1.2 Rationalization

Changing behaviour can be one means of reducing cognitive dissonance. However, changing an individual's behaviour by quitting smoking is very difficult for most smokers (Hyland et al., 2004). Research has found that smokers adopt rationalizations to reduce cognitive dissonance by underestimating the danger of smoking (Dawley, Fleischer, & Dawley, 1985), holding unrealistically optimistic thoughts about their chances of avoiding illness and life hazards (Weinstein, 1982, 1987), describing themselves as "addicts" to avoid dissonance (Eiser, 1982; Eiser, Sutton, & Wober, 1978), and questioning the validity of evidence linking smoking and health hazards (Pervin & Yatko, 1965).

Most research dealing with cognitive dissonance among smokers has been focused on identifying different types of rationalizations (Chapman, Wong, & Smith, 1991; Oakes, Chapman, Borland, Balmford, & Trotter, 2004),

examining the relation between rationalization and future behaviour such as intentions to quit (Borland et al., in prep; Oakes et al., 2004), and comparing smokers' rationalizations to ex-smokers, those relapsing, and non-smokers (Chassin, Presson, Sherman & Kim, 2002; Gibbons, Eggleston & Benthin, 1997; McMaster & Lee, 1991).

Chapman, Wong, and Smith (1991) extensively examined smokers' false and misleading beliefs about smoking, called "self-exempting beliefs," to reduce cognitive dissonance. They assessed Australian smokers and ex-smokers on the basis of 14 self-exempting beliefs. The results revealed that smokers were more likely than ex-smokers to hold self-exempting beliefs about smoking (smokers were more agreeable than ex-smokers for 11 of the 14 beliefs).

Oakes and her colleagues (2004) identified four distinctive groups that demonstrated self-exempting beliefs. "Bulletproof," "Skeptic," "Jungle," and "Worth it" were the four classifications of self-exempting beliefs. "Bulletproof" reflected smokers' beliefs that they are less prone to harm than others (e.g., "I think I must have the sort of good health or genes that means I can smoke without getting any of the harms"). "Skeptic" beliefs were exemplified by smokers' tendency to downplay the harms (e.g., "The medical evidence that smoking is harmful is exaggerated"). "Jungle" beliefs were demonstrated by smokers' tendency to normalize the dangers of smoking because of the presence of other risks (e.g., "Smoking is no more risky than lots of other things people do"). Finally, "Worth it" beliefs focused on an

individual's cost-benefit appraisal (e.g., "You've got to die of something, so why not enjoy yourself and smoke"). The researchers characterized smokers that hold self-exempting beliefs as those who were more likely to be older, smoke more than 15 cigarettes per day, and have less education.

Oakes et al. (2004) also found that self-exempting beliefs were related to future behaviours such as intentions to quit smoking. Intentions have been identified as the most immediate and important cognitive antecedent of behaviour, defined by a person's decision to act and the effort that the person is likely to make in order to perform a target behaviour (Abraham & Sheeran, 2003; Ajzen, 1988, 1991). From their cross-sectional study, Oakes et al. found that all four categories of self-exempting beliefs (i.e., "Bulletproof," "Skeptic," "Jungle," and "Worth it") were related to smokers having little interest in quitting. Among the four self-exempting beliefs, "Worth it" beliefs were the strongest independent predictor of smokers not planning to quit.

Borland and his colleagues (in prep) replicated and extended Oakes et al.'s findings. From two waves of a cohort survey, they found that self-exempting beliefs were negatively associated with intentions to quit in Wave 1, particularly the "Worth it" beliefs. Additionally, smokers holding "Worth it" beliefs were less likely to make quit attempts in Wave 2.

How do smokers' rationalizations differ from ex-smokers, those relapsing, and non-smokers? McMaster and Lee (1991) examined knowledge and beliefs

about smoking among Australian smokers, non-smokers, and ex-smokers within a cognitive dissonance framework. They found that smokers held more rationalizations of smoking than ex-smokers or non-smokers. This was similar with the findings of Chapman et al. (1991), showing that Australian smokers were more likely than ex-smokers to hold self-exempting beliefs.

Chassin et al. (2002) examined whether smoking cessation and relapse were associated with changes in stress, negative affect, and smoking related beliefs. Although relapsers did not show increases in stress or negative affect, they increased their positive beliefs about smoking (e.g., "If I smoke, I will be relaxed"), perceiving smoking as a less personalized and general threat to health over time. The increased positive beliefs, coinciding with the decreased perception of health risks, were viewed as rationalization among smokers. These findings are consistent with Gibbons et al. (1997) who found a defensive maintenance of beliefs, such that relapsers could reduce any discrepancy between their beliefs and their smoking behaviour.

Taken together, smokers, compared to non-smokers, ex-smokers, and relapsers, are more likely to rationalize their smoking by holding various forms of self-exempting beliefs and smokers' rationalizations are negatively related to intentions to quit.

Although the rationalizations of smoking might be easier than behavioural changes (e.g., quitting smoking), in recent years smokers' rationalizations have

6

become increasingly challenged. The evidence linking smoking and health

risks is undeniable and commonly received (Gibbons et al., 1997), and

escalating anti-smoking messages and stronger tobacco control policies keep

reminding smokers that smoking is hazardous to both their health and their

family and co-workers if they are exposed to secondhand smoke. In this

context, smokers' rationalizations have become harder to defend. If smokers

cannot rationalize their smoking, they may inevitably begin to experience

another psychological experience; that is, they may begin to regret their

smoking (Fong et al., 2004).

1.3 Regret

Regret is a negative, and cognitive-based emotion that we experience when

realizing or imagining that our current situation could be better if we had acted

differently (Conner, Sandberg, McMillan, & Higgins, 2006). Psychological

research on regret has typically been focused on the distinction between action

versus inaction (Gilovich & Medvec, 1995; Kahneman & Tversky, 1982) and

the effects of anticipated and felt regret on decision-making (Connolly & Reb,

2005; Richard, de Vries, & van der Pligt, 1998; Zeelenberg, Inman & Pieters,

2001).

Action/inaction debates relating to regret were initiated with Kahneman and

Tversky's (1982) pioneering experiment. They asked participants to consider

the feelings of two investors; one investor had recently bought a certain stock

(active investor), and the other had simply retained the same stock (passive

investor). Both investors lost a moderate amount of money when the particular

stock declined. Kahneman and Tversky found that most participants reported

that the active investor would feel more regret than the passive investor. They

concluded that bad outcomes resulting from action are more regretted than

similar outcomes resulting from inaction. The action/inaction debates were

stimulated by Gilovich and Medvec (1995), who introduced a temporal

reversal. That is, they found that action is regretted more in the short term,

whereas inaction is regretted more in the long term.

Some psychologists have also recognized that anticipated regret can affect

decision-making and corrective action that often produces improvement.

Anticipated regret refers to beliefs about whether or not feelings of regret will

follow in the future (Zeelenberg & Pieters, 2006). For example, Zeelenberg,

Inman, and Pieters (2001) found that regret, in response to a negative

experience with service providers (e.g., restaurants), was a predictor of

subsequent switching to a new service provider. Richard, de Vries, and van

der Pligt (1998) also found that anticipated regret predicted precautionary

sexual behaviour; that is, anticipated regret significantly predicted future

contraceptive behaviour. The aforementioned studies consistently show that

regret is an important cognitive-affective experience in decision making within

consumer and health domains and regret (or anticipated regret) can influence

consumer and health behaviours. It follows that regret among smokers should

play a potential important role in understanding smoking and quitting

behaviour. Smokers' regret is an important psychological experience with

potential implications for cessation and deserves researchers' attention.

One approach for studying the role of regret in smoking behaviour would be in

the domain of economic decision models. Traditional economic models of

addiction, however, have no room for regret. To explain why people are

addicted to smoking, traditional economic models of addiction consider

smokers as rational decision-makers. That is, smokers are considered to

carefully calculate the pros and cons of smoking, make a choice to smoke, and

their preferences will not change over time (Becker & Murphy, 1988). These

rational addiction models of smoking do not allow smokers to compare their

current reality (i.e., smoking) with a possible alternative reality (i.e., not

smoking). With such a model, smokers are expected to know all of the pros

and cons of smoking (i.e., be fully informed) when making the initial decision

to smoke. They are thought to continue smoking because their preferences for

smoking are static and do not change. If there were any regretful smokers,

they would not have started smoking in the first place. In this paradigm,

current smokers are never regretful. The predictions of rational addiction,

however, are not supported. The large majority of smokers report that they

experience regret about their smoking (Jarvis, McIntyre, & Bates, 2002; Fong

et al., 2004; Slovic, 2001).

9

More contemporary economic models address the issue of time-inconsistent preferences among decision-makers and introduce the possibility of regret among smokers. Gruber and Koszegi (2001) argue that in the traditional economic models of addiction, future consequences of present consumption-decisions did not receive enough weight; future-self has a willingness to pay for control of the present-self, and an individual's present actions affect the welfare of his/her future-self. On the basis on this new approach of addiction, it is possible for smokers, who are not-so-much rational decision-makers, to realize that their current situation (i.e., smoking) could have been better if they had acted differently (i.e., not smoking), and to experience regret.

There are only a handful of studies that have examined regret among smokers. For example, Slovic (2001) found that 85% of adult smokers and 80% of young smokers in the United States reported that they would not start smoking if they had to do it over again. Fong and his colleagues (2004) examined regret among smokers in four English-speaking countries—Canada, the United States, the United Kingdom, and Australia—in the International Tobacco Control (ITC) Policy Evaluation Survey. They found that almost 90% of smokers across all four countries experienced regret and they concluded that regret was a near-universal experience among smokers.

Fong and his colleagues also suggested that regret might play a role in predicting future behaviours, such as quitting, given the moderate cross-sectional correlation between regret and intentions to quit ($r = .24$). Although

10

the correlation from Fong et al. is not sufficient to address any causal relations

between regret and future behaviours, the literature in psychology has proven a

causal relation between the two. The possibility of regret predicting future

behaviours is based on regret as motivation. That is, acknowledging that regret

can motivate people to change their behaviours and might permit development

of a plan for the future (Lecci, Okun, & Karoly, 1994; Landman, Vandewater,

Stewart, & Malley, 1995; Stewart, & Vandewater, 1999; Zeelenberg, 1999).

More recently, Conner and his colleagues (2006) examined the role of

anticipated regret in adolescent smoking initiation. They argued that

anticipated regret is an additional predictor of intentions and behaviour in

accordance to the theory of planned behaviour (TPB) (Ajzen, 1988, 1991).

The TPB proposes that behaviour is determined by intentions to engage in the

particular behaviour. Intentions are determined by attitudes, subjective norms,

and perceived behavioural control. A growing number of studies, however,

include criticisms that the TPB does not sufficiently account for affective

processes despite the evidence that emotions do influence decision-making

such as anticipated regret (Conner et al., 2006). Conner et al. found that

anticipated regret was a significant predictor of intentions to smoke over and

above attitudes, subjective norms, and perceived behavioural control;

anticipated regret also predicted intentions to avoid smoking.

1.4 Relation between Rationalization and Regret

In sum, when smokers experience inconsistent cognitions—"Smoking is harmful" versus "I am smoking everyday"—dissonance is created. Because dissonance is an unpleasant emotion, smokers are motivated to reduce the dissonance by rationalizing their smoking. When smokers fail to rationalize, however, smokers may experience regret (Fong et al., 2004).

Smokers' rationalization and regret appear to be related psychological experiences. In fact, Festinger (1964, p.99) suggested a possible relation between the two: "Phenomenally, such salience of dissonance might be experienced as a feeling of regret, something that most of us have felt, probably, at one time or another." Gilovich, Medvec, and Chen (1995, p.186) also pointed out, "initial sting of regrettable action can be undone by the process of dissonance reduction." However, there is no empirical study that has simultaneously examined rationalization and regret among smokers. One empirical prediction about the relation between rationalization and regret is that rationalization would be negatively related to regret; when smokers realize that their behaviour is jeopardizing their health, smokers would be more likely to engage in rationalizing their smoking, whereas they would be less likely to regret their smoking, or vice versa.

Do people rationalize to resolve their cognitive dissonance? And when they fail to rationalize, do they move to regret their behaviour? Alternatively, do

people regret their behaviour and they, then, rationalize their regrettable behaviour? Although there are no empirical studies directly addressing this issue, some researchers have suggested that where problematic circumstances are unavoidable, people are engaged in processes of cognitive dissonance or rationalization, and then, either the processes terminate or substantially move to the experience of regret (Roese & Summerville, 2005).

The literature concerning justification is also related to the assumption that people move from rationalization to regret. Justification mechanisms explain that when individuals are faced with a poor decision outcome, they tend to ask themselves whether their decision was justified. If it is partially or entirely unjustified, we typically feel regret and the intensity of regret will usually increase according to the seriousness of the outcome (Connolly & Reb, 2005). Numerous studies illustrate this justification mechanism (Simonson, 1992; Seta, McElroy, & Seta 2001; Zeelenberg, van den Bos, van Dijk, & Pieters, 2001). For example, Seta and his colleagues adopted Kahneman and Tversky's classic stock investor problem (one investor who recently bought a certain stock, while the other retained the same stock) and added brief personality descriptions of the investors. When the investor was described as a cautious risk avoider, the original results were replicated (participants reported that the active investor would feel more regret than the passive investor). However, when the investor was described as a bold risk taker, the opposite was true: participants reported that the active investor would feel less regret

than the passive investor. Because behaving in character (bold risk taker)

provides a justification for the investors' behaviour (action), regret is reduced.

To summarize, the few studies that are relevant to the relation between

rationalization and regret suggest that there should be a negative relation

between the two. As applied to how smokers respond to cognitive dissonance

created by their continued smoking, smokers who reduce their dissonance

through rationalization should be less likely to experience regret. On the other

hand, smokers who do not rationalize should be more likely to experience

regret. Previous research suggests that people are engaged in processes of

rationalization for undesirable outcomes, and when they cannot rationalize or

justify their behaviour, they then substantially move to the experience of

regret. In the current study, the direction from rationalization to regret (rather

than from regret to rationalization) will be the theoretical basis. Although

empirical research on the direction between rationalization and regret is very

interesting, it goes beyond the current study.

In the current study, I will examine how rationalization and regret among

smokers are related to intentions to quit smoking. Based on the findings from

previous research (Borland et al., in prep; Oakes et al., 2004), I expect that

rationalization is negatively related to and regret is positively related to

intentions to quit. Although quitting is not measured because the current study

is cross-sectional, I measure intentions to quit, the best predictor of behaviour

(Ajzen 1988,1991; Fishbein & Ajzen, 1975).

I am also interested in examining what factors might be associated with rationalization and regret (Fong et al., 2004; Gibbons, Eggleston, & Benthin, 1997; McMaster & Lee, 1991; Oakes et al., 2004). More particularly, I am interested in assessing how social norms and cultural values may influence smokers' experiences of rationalization and regret in two developing countries in Southeast Asia (i.e., Thailand and Malaysia). In the following sections, I will address issues of social norms and cultural values in smoking, and then discuss why Thailand and Malaysia were countries of particular interest for the current study.

1.5 Social Norms and Cultural Values in Smoking

Understanding social norms[1] and culture is critical in understanding smokers' psychological experiences. Although smoking is universal, smoking occurs in particular social and cultural contexts, thus social norms and cultural values shape people's smoking-related attitudes, beliefs, and behaviour (Nichter, 2003; Unger et al., 2003).

Social psychology has a long history of interest in social influence (Cialdini & Goldstein, 2004). Peer groups and norms can considerably influence given members' beliefs, attitudes, and behaviours, and this peer influence is even stronger among adolescents. This is particularly true for smoking. Research examining social influence on smoking has been commonly focused on peer norms, predominantly among adolescents (Eisenberg & Forster, 2003;

15

Gunther, Bolt, Borzekowski, Liebhart, & Dillard, 2006). One rationale for

social norms being focused on adolescents, compared to adults, is that

adolescents are more sensitive to and need to accommodate the conformity

pressure coming from social norms (Gibbons, Helweg-Larsen, & Gerrard,

1995). For the same reason, smokers from one culture (e.g., a collectivistic

culture) can be more sensitive to social norms than their counterparts from

another culture (e.g., an individualistic culture). Moreover, this interaction

between social norms and culture can influence smokers' behaviours and

psychological experiences. This interaction will be discussed in detail later.

Social norms about smoking have implications for a comprehensive and

successful approach in tobacco control efforts. Successful tobacco control

policies can change people's attitudes and norms about smoking in a society.

If smoking is viewed as unacceptable in a given society, fewer people will

likely smoke, and with fewer people smoking, smoking will become even more

unacceptable. The decade-long California Tobacco Control Program is a good

example of successful tobacco policies that have changed social norms against

smoking. The program bans smoking in all indoor work places and many

outdoor areas in California. Gilpin, Lee, and Pierce (2004) examined attitudes

about where smoking should not be allowed and compared Californians with

the rest of the USA. They found that the California Tobacco Control Program

changed social norms among Californians, who showed significant changes in

attitudes about where smoking should not be permitted. In 1998-1999,

Californians showed higher levels of positive attitudes toward smoke-free restricted areas compared to 1992-1993. Also, Californians in 1992-1993 showed higher levels of positive attitudes toward smoke-free restricted areas compared to the rest of the USA (including those expressed in 1998-1999).

How are social norms associated with psychological experiences among smokers? Fong and his colleagues (2004) found that smokers who perceived stronger society norms against smoking were more likely to regret. To my knowledge, there is no literature covering how social norms influence smokers' rationalization. However, on the basis of the possible negative relation between rationalization and regret, I expect that social norms may influence rationalization in the opposite direction of regret. That is, smokers who perceive stronger society norms against smoking would be less likely to rationalize, and thus, more likely to regret.

Social norms among smokers have been well-researched, yet there are few studies on the role of culture in smoking. Some anthropologists examine culture as a social context in smoking and provide qualitative information about smoking from different cultures (Kohrman, 2004; Nichter et al, 2002). Yet quantitative research is required to test the role of culture in smoking. Fortunately, researchers in tobacco control have begun to recognize the fact that cultural influences on smoking are important. Despite varying definitions of culture, researchers commonly agree with the notion that culture is based on "shared elements that provide the standards for perceiving, believing,

evaluating, communicating, and acting among those who share a language, a historic period, and a geographic location" (Trinadis, 1996, p.408).

To date, studies covering cultural issues in smoking, if any, have mainly focused on the variation in smoking prevalence (or other smoking relevant variables) across nations and ethnic groups. Although those studies point out the importance of culture on smoking by showing different patterns of prevalence, comparing nations or ethnic groups as a proxy of culture is an indirect way to study culture (Unger et al., 2003).

Fong and his colleagues (2004), for example, compared the prevalence of regret among smokers from four English-speaking countries (i.e., Canada, the USA, the UK, and Australia). They found nearly identical levels of regret across the four countries (about 90%) and the factors that predict regret were the same in all four countries. They concluded that smokers' regret is a near-universal experience. Yet, this may, in part, be due to the many commonalities of the four countries. Thus, to test whether culture may be important in the experience of smokers' psychological experiences, it is necessary to study additional countries that vary more widely in cultural values. Studying Thailand and Malaysia, with more distinctive cultures, in the current study serves as a good case for examining cultural influences on smokers' psychological experiences.

To study culture more directly, social psychologists have suggested that subjective culture is divided into specific elements such as categories, beliefs, attitudes, norms, and values (Triandis, 1972). Hofstede (1980) attempted to map different cultural values, and one major concept to characterize cultures is the distinction between individualism and collectivism.

The major difference between individualistic and collectivistic cultures is the extent that the "other," compared to "myself," is important. People in individualistic cultures (e.g., Canada, USA) tend to focus on individual benefits, preferences, personal success, freedom, and independence. In contrast, people in collectivistic cultures (e.g., China, Korea) commonly focus on in-group benefits, connectedness, harmony, and family integrity. This individualism/collectivism construct has been studied in various areas of psychology such as self, cognition, emotion, attribution, and behaviour (Markus & Kitayama, 1991; Segall, Lonner, & Berry, 1998; Wheeler, Reis, & Bond, 1989). Despite the many studies on individualism/collectivism construct, there have been only a few attempts to examine how individualism/collectivism may play a role in understanding health behaviours, including smoking.

Among a handful of attempts, Murray-Johnson and her colleagues (2001) examined the effectiveness of AIDS-prevention fear appeals with respect to individualism/collectivism. They found that fear appeals threatening the family caused greater fear for members with a collectivistic cultural

background (recent Mexican immigrants to the U.S.) than for members with a

individualistic cultural background (African Americans). Conversely, fear

appeals threatening the individual caused greater fear for members from the

individualistic culture than for members from the collectivistic culture.

Marvin et al. (as cited in Triandis, 1989) studied individualism/collectivism in

the smoking context. They found that people with a collectivistic cultural

background (Hispanics in the U.S.) showed greater concern than people with

an individualistic cultural background (non-Hispanics) about smoking

affecting the health of others and giving a bad example to children.

Conversely, people with a individualistic cultural background were more

concerned about personal issues such as withdrawal symptoms from smoking.

As discussed earlier, culture can interact with social norms. Cultural values

might influence the degree in which people follow social norms (Unger et al.,

2003). More specifically, smokers in a culture emphasizing a person's identity

as a member of a group (i.e., a collectivistic culture), rather than emphasizing

the person's individual identity (i.e., an individualistic culture), might be more

influenced by society norms. This interaction between social norms and

culture will be tested in the current study.

To summarize, because smoking is a socially and culturally embedded

behaviour, understanding social norms and cultural values in a society is

crucial when studying smokers' psychological experiences. Whether social

norms and cultural values may have an influence on smokers' rationalization and regret will be tested in the current study. I expect that smokers in a society with stronger social norms against smoking and a culture weighting groups' opinion against smoking (rather than a society stressing individual freedoms or pleasures of smoking) would be less likely to rationalize and more likely to regret.

The current study was situated in two middle-income, developing countries in Southeast Asia: Thailand and Malaysia. Considering that over half of the world's 1.1 billion smokers live in Asia, and that Asia is viewed as one of the most attractive markets by the tobacco industry, the Southeast Asia region is critical to the global tobacco control initiative. Thailand and Malaysia share some similarities such as per capita GDP (Central Intelligence Agency, 2005), geographical proximity, and certain cultural values (collectivism). Despite these similarities, these two countries have historically had very different regulatory environments and their distinctive tobacco control policies may differently shape social norms. Moreover, although both Thailand and Malaysia are categorized as collectivistic cultures (Hofstede, 1991), they have subtle, yet distinctive cultural differences. The differences in both culture and tobacco control policies between Thailand and Malaysia offer a good context for examining the mechanisms of why these countries might differ in terms of rationalization and regret. In the following section, I present more details

about the differences in tobacco control policies and culture that are apparent between the two countries.

1.6 Thailand and Malaysia

Smoking prevalence in Thailand dramatically changed from 1981 to 2000. The overall smoking prevalence declined from 35.2% to 22.5%. Male smoking prevalence decreased from 63.2 % to 42.9%, and female smoking prevalence decreased from 5.4% to 2.4% (Chitanondh & WHO, 2003). In Malaysia, overall smoking prevalence was 24.8% in 1996; male smoking prevalence was 49.2%, whereas female smoking prevalence was 3.2% (Institute of Public Health, 1997).

Thailand and Malaysia are actively involved in tobacco control. Both countries have ratified the World Health Organization's Framework Convention on Tobacco Control (FCTC), which is the world's first public health treaty. The treaty has a mission of educating the public about the devastating health and economic impacts of tobacco (see http://www.fctc.org/index.php for details). Thailand ratified the treaty on 8 November 2004, while Malaysia ratified the treaty on 16 September 2005. Despite the current efforts apparent in both countries regarding tobacco control, Thailand and Malaysia have different historical backgrounds with respect to their tobacco control policies.

1.6.1 Tobacco policies in Thailand and Malaysia

Among countries in Southeast Asia, Thailand is considered to be a leader in health promotion and tobacco control. Their 1992 Tobacco Products Control Act outlawed most types of promotion and the 1992 Non-Smokers' Health Protection Act grants authority to the Ministry of Public Health to create non-smoking areas by regulating a wide variety of public places (Vateesatokit, 2003). The Tobacco Products Control Act and the Non-Smoker's Health Protection Act give Thailand some of the world's most comprehensive legislative protection from tobacco marketing activities and involuntary exposure to tobacco smoke. Currently, the Thailand Tobacco Monopoly (TTM), with the Ministry of Finance holding an 85% stake in the company, dominates the tobacco industry in Thailand. Thailand was forced to allow the import of foreign cigarettes during the early 1990s, but foreign companies are not allowed to manufacture cigarettes in Thailand. In contrast, Malaysia, sandwiched between Thailand and Singapore (two countries that are recognized for having some of the most comprehensive tobacco control laws in the world), has provided an attractive commercial environment to multinational tobacco companies (Assunta & Chapman, 2005). Tobacco companies view the Malaysian government as having a "very open and friendly attitude towards business" (cited in Assunta & Chapman, 2005, p.ii63). The tobacco market in Malaysia is largely controlled by multinational firms: British American Tobacco (BAT), Philip Morris, and Japan Tobacco

(Kuan, 2003). Tobacco regulations in Malaysia first emerged during the early 1970s, but three decades later, regulations remain weak and are not stringently enforced.

The policy environment with respect to tobacco control can shape people's attitudes and beliefs toward smoking. Smokers in Australia and Canada have stronger beliefs that smoking is not socially acceptable than do smokers in the United States and the United Kingdom (Hammond et al., 2004). The differences in social norms against smoking among these four countries are consistent with the differing severity of tobacco control policies: Australia and Canada have stronger tobacco control policies compared to the United States and the United Kingdom (Fong et al., 2004). More direct evidence of policy influence on social norms can be found in the case of the California Tobacco Control Program (Gilpin et al., 2004).

Different policy environments between Thailand and Malaysia, then, may shape smokers' beliefs about smoking differently. Given that Thailand has a longer history of stringent tobacco control policies than Malaysia, the social norms against smoking are expected to be stronger in Thailand compared to Malaysia. Such a difference in social norms, in turn, may have different influences on Thai and Malaysian smokers' psychological experiences. That is, due to Thai smokers' stronger social norms against smoking, relative to Malaysian smokers, Thai smokers may be less likely to rationalize and more likely to regret.

24

1.6.2 Cultures in Thailand and Malaysia

Although both Thailand and Malaysia are collectivistic cultures (Hofstede, 1991), in which group harmony is emphasized more than individual freedom and independence, Embree's early work (1950) points out that the cultures of the two countries are distinctive.

Coming from the only Southeast Asia country never to be colonized by a foreign power, people in Thailand have a strong sense of their own identity. The family is the core unit of Thai society and traditional ideas permeate every facet of everyday life. There are strict codes of behaviour between members of a family and when interacting with other Thais, and these codes are dictated by the relative ages and social status of the people interacting. Even though pressures of modernization are increasing, Thailand is still considered to be a traditional country (Bond et al., 2004; Embree, 1950).

Compared to Thailand, Malaysia appears to be less collectivistic (Bond et al., 2004). Malaysia achieved its independence from the British in 1957, and the British left a legacy of "communalism" upon which modern Malaysia is built (Pope, Musa, Singaravelu, Bringaze, & Russell, 2002). Increasing urbanization has prompted further westernization in Malaysia.

The notion of variations in individualistic and collectivistic cultures is useful for testing subtle, yet distinctive, cultural differences between Thailand and

Malaysia. Although the individualism and collectivism dimension has been indispensable in cross-cultural research, Triandis (1996) suggests another cultural dimension—vertical and horizontal dimension—to validate variations within individualism/collectivism.

In vertical cultures, hierarchy is important, and in-group authorities influence most social behaviour. In horizontal cultures, on the other hand, equality is important and social behaviour is determined on a more egalitarian basis (Triandis, 1996). A general description of the four types of cultures are: (1) individuals in vertical individualistic (VI) cultures are independent and perceive themselves as different from others; (2) individuals in horizontal individualistic (HI) cultures are independent and perceive themselves to be similar to others; (3) individuals in vertical collectivistic (VC) cultures are interdependent and perceive themselves to be different from others; and (4) individuals in horizontal collectivistic (HC) cultures are interdependent and perceive themselves to be similar to others.

Being members in collectivistic cultures, smokers in both Thailand and Malaysia would consider their family and friends' (negative) attitudes about their smoking as important. However, the fact that Thailand is more traditional and family-oriented, whereas Malaysia is less traditional and more modernized, may contribute to the extent that smokers are likely to rationalize and regret their smoking. I expect that given the fact that Thailand is more traditionally collectivistic than Malaysia, smokers in Thailand may agree with

their family's negative attitudes toward smoking more than smokers in Malaysia, and it may prompt smokers in Thailand to rationalize less and to regret smoking more than smokers in Malaysia.

1.7 Summary

The current study examines two psychological experiences—rationalization and regret—among smokers from Thailand and Malaysia and the behavioural impact of rationalization and regret—intentions to quit. In doing so, I not only examine differences between the two countries in rationalization, regret, and intentions to quit, but also explain country differences by using the psychological constructs of social norms and the cultural psychology construct of collectivism (via mediation and moderation analyses).

More specifically, I expect the two countries differ in prevalence of intentions to quit. I conduct mediational analyses to test whether the relation between country and quit intentions may be explained by two important psychological variables. The expectation is that the differences between Thailand and Malaysia in quit intentions will be, in part, explained by difference between the two countries in rationalization and regret, and that those variables, in turn, will be significant predictors of quit intentions. Conducting these analyses thus allows an estimation of each pathway causal chain that is hypothesized to quit intentions.

Due to the longer history of stronger tobacco control policies in Thailand, which would likely strengthen social norms against smoking, smokers in Thailand may have a more difficult time rationalizing their smoking behaviour compared to smokers in Malaysia. Consequently, smokers in Thailand may be more likely to regret their smoking than smokers in Malaysia. I conduct mediational analyses to test whether the relation between country and rationalization and between country and regret might be explained by the psychological constructs of social norms and the cultural psychology construct of collectivism.

I use two kinds of social norms—society norm and people norm. Society norm is a belief about global social acceptance of smoking in each country and people norm is a belief about acceptance of those close to the respondents. Also, I use vertical collectivism that has been of central importance in understanding differences between countries. People who are high in vertical collectivism are interdependent and more traditional. The expectations are that the differences between Thailand and Malaysia in rationalization and regret will be, in part, explained by difference between the two countries in social norms and vertical collectivism and that those variables, in turn, will be significant predictors of rationalization and regret.

The current study was based on data from the International Tobacco Control (ITC) Southeast Asia Policy Evaluation Survey. I will discuss the ITC project in detail in the methods section.

2.0 GOALS OF STUDY

The current study has five goals.

1. The first goal is to examine whether smokers from Thailand and Malaysia differ in intentions to quit smoking.

2. The second goal is to examine whether smokers from Thailand and Malaysia differ in rationalization and regret.

3. The third goal is to explain country difference in intentions to quit smoking with rationalization and regret by using mediational analyses.

4. The fourth goal is to explain country differences in rationalization and regret with social norms and collectivism by using mediational analyses.

5. The fifth goal is to identify predictors of rationalization and regret among smokers, and to examine whether the predictors differ in Thailand and Malaysia.

3.0 METHOD

3.1 The International Tobacco Control (ITC) Policy Evaluation Survey

The data for this study were from the International Tobacco Control (ITC) Policy Evaluation Southeast Asia Survey. The ITC Project consists of cohort surveys of representative samples of adult smokers in 12 countries—Canada, United States, United Kingdom, Australia, Ireland, Scotland, Thailand, Malaysia, South Korea, China, Mexico, Uruguay, and France. All ITC surveys follow the same conceptual framework and methodology, that is, representative national cohort surveys created from a common conceptual model, with common methods and measures across countries (Fong et al., 2006). This standardized framework and method allow researchers to understand the population-level of smoking behaviours in each country and to compare them among countries. The ITC Project's mission is to measure the psychosocial and behavioural impact of policies in multiple countries (Fong et al., 2006).

The ITC Southeast Asia Survey was conducted January-March 2005. Participants were asked to complete a 40-minute in-person survey. The ITC Southeast Asia Survey is designed as a longitudinal cohort study, but the analyses reported here are from the first wave because at present the second wave has not been completed.

3.2 Participants

Participants for the study were smokers, 18 years of age or older, who reported having smoked at least 100 cigarettes lifetime, and currently smoked at least weekly. A total of 4,006 adult smokers were recruited and completed the survey: Thailand (N = 2,000) and Malaysia (N = 2,006).

3.3 Sampling Design

The survey utilized face-to-face recruitment of participants from an area sample of households. The sample of households was selected using a stratified multi-stage sampling design.

For Thailand, the primary stratification consisted of Bangkok and four additional regions (i.e., North, Northeast, Central, and South) in Thailand. Participants were selected from Bangkok and two provinces in each of Thailand's four regions: Chiang Mai, Phrae, Nakhon Ratchasima, Nong Khai, Nakhon Pathom, Samut Sakhon, Nakhon Si Thammarat, and Songkhla. For Malaysia, participants were selected from one state in each of Malaysia's six zones: Kedah, Selangor, Johor, Terengganu, Sabba, and Sarawak.

The secondary stratification consisted of urban and rural districts within each province or state of both countries, producing eight urban and rural districts (in addition to Bangkok) in Thailand and a total of 12 urban and rural districts in

31

Malaysia. Sample allocations within the secondary strata were made proportional to population sizes. In Thailand, "districts" were taken to coincide with the urban and rural sections of the provinces. For each country, sub-districts and communities were selected within urban and rural districts, with probability proportional to population size. In Malaysia, two rural and two urban districts were selected within each state, with probability proportional to population size, and each pair of districts was pooled.

Each selected last-stage unit was divided into cluster sizes of about 300 households, and sampling these provided a total of approximately 125 sampling clusters for each country. Each cluster was given a quota of about 16 adult smokers (youth were also sampled in both countries, as well as non-smokers in Malaysia). For Malaysia, the Department of Statistics Malaysia provided the basis of the sampling frame; where necessary, the cluster quotas were divided among several sub-clusters or "enumeration blocks."

Households were selected within each cluster using enumeration, followed by simple random sampling in Thailand, and systematic sampling methods in Malaysia. For each selected cluster, one in four households was selected systematically, and sampling continued until the participant quota in each sampling category was filled. Once a potentially eligible household was identified and contacted, interviewers enumerated all household members. For households with more than one eligible respondent per quota cell, participants were randomly selected by using a variant of the "Kish Grid" (Kish, 1949).[2]

3.4 Procedure

In Thailand, experienced interviewers from the Institute for Population Health and Social Research (Mahidol University) administered the survey. In Malaysia, experienced interviewers from both the Ministry of Health and the National Poison Centre (Universiti Sains Malaysia) administered the survey. All survey questions and study procedures were standardized as much as possible across the two countries. Additional information about the research design and survey methodology is available elsewhere (Thompson et al., 2006). All procedures were cleared for ethics by institutional review boards or research ethics boards at Mahidol University, the Universiti Sains Malaysia, the University of Waterloo, The Cancer Council Victoria, and the Roswell Park Cancer Institute.

3.5 Measures

The ITC Southeast Asia survey included various questions about policy-relevant variables, psychosocial mediators, and behavioural variables. The detailed conceptual framework of the ITC project is available elsewhere (Fong et al., 2006). Key measures for the current study were as follows.

3.5.1 Intentions to quit smoking

Participants indicated whether they were planning to quit smoking within the next month, within the next six months, sometime in the future, or not planning to quit. In the mediation model, intentions to quit was dichotomized so that 1= intentions to quit within six months, and 0= no intentions to quit within six months.[3]

3.5.2 Rationalization (Self-exempting belief)

Participants were asked to indicate whether they strongly disagree, disagree, neither disagree nor agree, agree, or strongly agree with the statement: "You've got to die of something, so why not enjoy yourself and smoke." Previous studies (Borland et al., in prep; Oakes et al., 2004) showed that this item had the strongest predictive value among other self-exempting belief items, and thus was used in the current study. In all models tested, rationalization was dichotomized so that 1= agree or strongly agree, and 0= strongly disagree, disagree, or neither disagree nor agree.

3.5.3 Regret

Participants were asked to indicate whether they strongly disagree, disagree, neither disagree nor agree, agree, or strongly agree with the statement: "If you had to do it over again, you would not have started smoking" (Fong et al.,

2004). In the mediation model and the logistic model, regret was

dichotomized so that 1 = agree or strongly agree, and 0= strongly disagree,

disagree, or neither disagree nor agree.

3.5.4 Perceived social norms

Two items of perceived social norms were measured: More global societal

norm and norm of those close to the respondents. Participants were asked to

indicate whether they strongly disagree, disagree, neither disagree nor agree,

agree, or strongly agree with the following two statements: "Malaysian [*or*

Thai] society disapproves of smoking [society norm, hereinafter]" and "People

who are important to you believe that you should not smoke [people norm,

hereinafter]."

3.5.5 Vertical collectivism

Four items measuring cultural values were included: horizontal individualism

(HI), vertical individualism (VI), horizontal collectivism (HC), and vertical

collectivism (VC). The four items, adopted from Singelis, Triandis, Bhawuk,

and Gelfand (1995), were as follows: "You enjoy being different from others"

(HI); "It annoys you when other people do better than you at something" (VI);

"Before you make a decision, you like to talk to close friends and get their

ideas" (HC); and "You would give up an activity you really enjoy if your

family did not approve" (VC). Given the fact VC was the only significant predictor of both rationalization and regret, I will focus only on VC.

3.5.6 Demographic variables

Gender, age, education, and income were measured. Age was divided into four categories: 18-24 years, 25-39 years, 40-54 years, and 55 years or older. For the education variable, three categories were created: 1 = completed high school or less, 2 = completed technical or trade school or community college (or some), and 3 = completed at least one university degree. These education categories were identical in the two countries. For each country, the income distributions were divided into three groups: low, medium, and high incomes. For Thailand, the following income categories were used: Low = less than 45,000 baht; moderate = 45,000.00 baht-108403.20 baht; high = 108403.21 baht or higher. For Malaysia, the following income categories were used: Low = less than 9,600.00 ringgit; moderate = 9,600.00 ringgit - 20,400.00 ringgit; high = 20,400.01 ringgit or higher.

3.5.7 Smoking- and quitting-relevant variables

The smoking-relevant variables consisted of cigarettes smoked per day and two items for addiction (i.e., time after waking up before the first smoke of the day; perceived addiction). The cigarettes smoked per day variable was divided into four categories: 1-10, 11-20, 21-30, and 31 or more.

The objective measure of dependence (time after waking up before the first smoke of the day) was derived from the Fageström Dependence Scale (Fageström, 1978). The original Fageström Dependence Scale consisted of four quantitative categories: within 5 minutes, 6-30 minutes, 31-60 minutes, and more than 60 minutes. However, some smokers in rural areas for the current study, particularly in Thailand, did not commonly communicate time in quantitative terms such as minutes. Thus, the time responses were changed into nine qualitative categories: immediately (before using the toilet), during toilet use, after toilet use or before breakfast, with breakfast, after breakfast, later in the morning, during the afternoon, during the evening, and no particular time.

After consulting with other ITC Project researchers, the "immediately" response was categorized as within 5 minutes, "during toilet use" and "after toilet use or before breakfast" responses as 6-30 minutes, the "with breakfast" and "after breakfast" responses as 31-60 minutes, and the "later in the morning, during the afternoon, during the evening, no particular time" variables as more than 60 minutes.

The variable measuring subjective addiction was "Do you consider yourself addicted to cigarettes?" with three response categories: not at all; yes, somewhat addicted; and yes, very addicted.

The quitting-relevant variables consisted of prior quit attempts and the perceived benefits of quitting. The perceived benefits of quitting question was "How much do you think you would benefit from health and other gains if you were to quit smoking permanently in the next six months?" There were three response categories: not at all, somewhat, and very much.

Finally, a question about whether smokers smoked "light" cigarettes was asked: "Do you currently smoke light cigarettes?" There were two response categories: yes and no.

3.5.8 Health-relevant variables

Health-relevant variables consisted of three questions. Participants were asked a question about their overall health ("In general, how would you describe your health?). There were five response categories: poor, fair, good, very good, and excellent.

Participants were also asked about their perception that smoking had already damaged their health. The question asked was "To what extent, if at all, has smoking damaged your health?" with three response categories: not at all, somewhat, and very much.

A question pertaining to respondents' worries that smoking will damage their health was asked: "How worried are you, if at all, that smoking will damage

your health in the future?" There were three response categories: not at all, somewhat, and very much.

3.5.9 Perceived financial cost

Participants were asked to indicate whether they strongly disagree, disagree, neither disagree nor agree, agree, or strongly agree with the statement: "You spend too much money on cigarettes."

4.0 RESULTS[4]

First, I present how Thailand and Malaysia might differ with respect to the prevalence of rationalization, regret, and intentions to quit smoking. Second, I explore how rationalization and regret may explain country differences in intentions to quit using mediation analyses. Third, I explore how social norms and cultural values may explain country differences in rationalization and regret using mediation analyses. Finally, I show results of various predictors of rationalization and regret.

4.1 Characteristics of the Sample

A total of 2,000 Thai smokers and 2,006 Malaysian smokers and participated
in the survey. Table 1 shows the characteristics of the study participants.

Table 1.

Descriptive statistics of respondents

Characteristics	Malaysia	Thailand
Total number of respondents	2,007	2,000
Gender (% male)	95.1	92.3
Age		
18-24 years	15.0 %	7.0 %
25-39 years	33.2 %	24.3 %
40-54 years	32.6 %	41.2 %
55 + years	19.2 %	27.4 %
Mean of Age (SD)	41.2 (14.95)	46.3 (14.17)
Education (% university graduates)	3.0	3.8
Mean cigarettes smoked per day	13.7	13.2

4.2 Preliminary Analyses

Before examining mediation effects of rationalization and regret on intentions to quit smoking, I present the prevalence of rationalization, regret and intentions to quit. More particularly, I assess whether there are country differences in the prevalence of rationalization, regret and intentions to quit. In this process, I examine the hypothesized negative relation between rationalization and regret. I then present mediation model of intentions to quit to determine whether rationalization and/or regret may explain why the two countries differ in intention to quit.

4.2.1 Prevalence of rationalization, regret and intentions to quit across country

Figure 1A shows the percentage of smokers who agreed or strongly agreed with the rationalization statement, "You've got to die of something, so why not enjoy yourself and smoke." Interestingly, there was huge country difference in the prevalence of rationalization: nearly half of Malaysian smokers (49.1%) rationalized their smoking, whereas only 9.5% of Thai smokers rationalized their smoking. This difference was highly significant ($\chi^2 = 609.11$, $p < .001$).

Rationalizations appear more wide spread in Malaysia compared to Western countries, yet they are strikingly less observed in Thailand compared to Western countries. According to Oakes et al. (2004), 32.7% of Australian

smokers reported that they rationalized their smoking, particularly holding

"worth-it belief," which was identical with the measure in the current study.

Yong et al. (2005) also found that 36.1% of adult smokers who were aged less

than 60 years old in four English-speaking countries (Canada, U.S., U.K., and

Australia) held rationalizations.

Figure 1A.

Percentage of smokers who agreed or strongly agreed with the rationalization
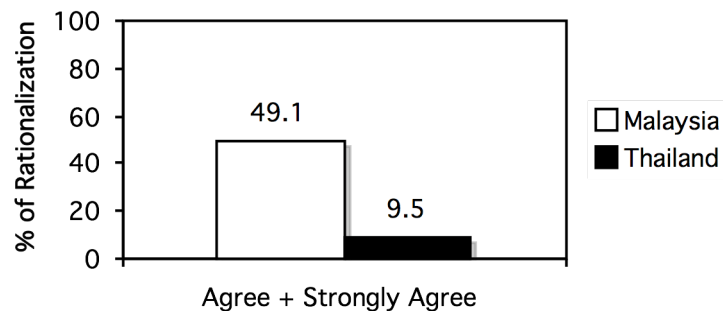
statement

Figure 1B presents the percentage of smokers who agreed or strongly agreed

with the regret statement, "If I had it to do over again, I would not have started

smoking." Again, there was a country difference in the prevalence of regret.

42

However, the pattern of regret prevalence was the opposite of the rationalization prevalence: 79% of Malaysian smokers admitted that they regretted smoking, whereas 92.2% of Thai smokers regretted smoking. This difference was highly significant ($\chi^2 = 139.89$, $p < .001$). The high prevalence of regret among Thai smokers was similar with almost 90 % of smokers from four Western English speaking countries (Canada, US, UK, and Australia) (Fong et al., 2004).

Figure 1B.

Percentage of smokers who agreed or strongly agreed with the regret statement
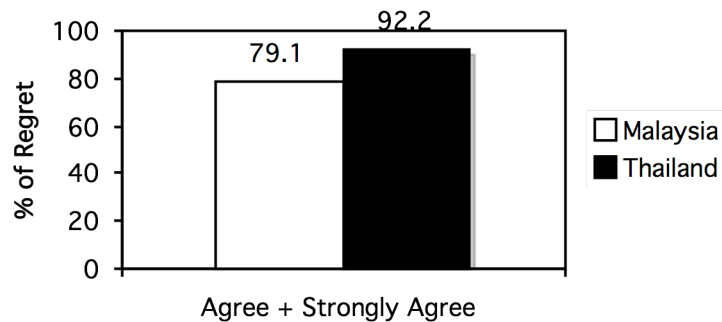
Next, Figure 1C presents the percentage of smokers who said that they had intentions to quit within six months. Again, there were country differences in

intentions to quit: only 11.3% of Malaysian smokers intended to quit within six months, whereas 20.8% of Thai smokers intended to quit. This difference was highly significant ($\chi^2 = 64.89$, $p < .001$).

Figure 1C.

Percentage of smokers who said that they intended to quit within six months
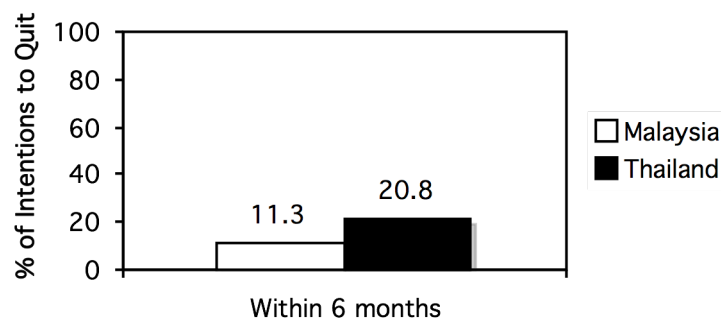
In sum, the prevalence of rationalization, regret, and intentions to quit differed in the two countries. Malaysian smokers were more likely to rationalize smoking than Thai smokers. Thai smokers, on the other hand, were more likely to regret smoking and they were more likely to have intentions to quit within six months than Malaysian smokers.

4.2.2 Relation between rationalization and regret

This study focused on two psychological constructs associated with smoking:

rationalization and regret. As discussed in the Introduction, rationalization is

expected to be negatively related to regret.

Overall, rationalization was negatively related to regret ($r = -.19$, $p < .001$), as

expected. This negative relation between rationalization and regret was

statistically significant in Thailand ($r = -.17$, $p < .001$), but not in Malaysia ($r =$

$-.02$, *n.s.*). The two correlations for the two countries were significantly

different ($p < .001$).

4.3 Mediation Model of Intentions to Quit

Previously, I demonstrated that the two countries differed in prevalence of

intentions to quit. To understand possible mechanisms for why the two

countries differed in intentions to quit smoking, I conducted analyses of

possible mediators. I chose to examine the possible mediational role of

rationalization and regret.

According to Baron and Kenny (1986), mediation analyses show whether an

independent variable (A) influences a dependent variable (C) thorough a

mediating variable. Baron and Kenny (1986) and Judd and Kenny (1981)

suggest that the following steps should be satisfied: (1) the independent

45

variable should be associated with the dependent variable; (2) the independent

variable should be associated with the mediating variable; (3) the mediating

variable should be associated with the dependent variable even after the

independent variable is controlled; (4) the association between the independent

variable and the dependent variable should be reduced after the mediating

variable is controlled. Ideally, these four steps are recommended to establish

mediation, but steps 2 and 3 are sufficient in establishing mediation (Kenny,

Kashy & Bolger, 1998).

Figure 2 presents the mediation model of intentions to quit. Note that country

is an independent variable (A) hypothesized to cause differences in intentions

to quit (C) through rationalization (B_1) and regret (B_2).

Step 2 in establishing mediation was satisfied. There were significant relations

between country and rationalization and between country and regret ($b = -2.14$,

$p < .001$; $b = 1.28$, $p < .001$, respectively). This indicates that Thai smokers

were less likely to rationalize and more likely to regret than Malaysian

smokers.

Step 3 was also satisfied. There were significant relations between

rationalization and intentions and between regret and intentions ($b=-.42$, $p=$

$.001$; $b= .82$, $p< .001$, respectively). The relation between country and

intentions was reduced when rationalization and regret were in the model

indicating that rationalization and regret mediated the relation between country

46

and intentions to quit (Sobel test = 3.24, p = .001 for the path though

rationalization; Sobel test = 4.23, p < .001 for the path through regret). This

finding indicates that Thai smokers were more likely to intend to quit than

Malaysian smokers and this was, at least in part, due to 1) the fact that Thai

smokers were less likely to rationalize smoking than Malaysian smokers, and

2) the fact that Thai smokers were more likely to regret smoking than

Malaysian smokers.

Figure 2.

Mediation model of intentions to quit
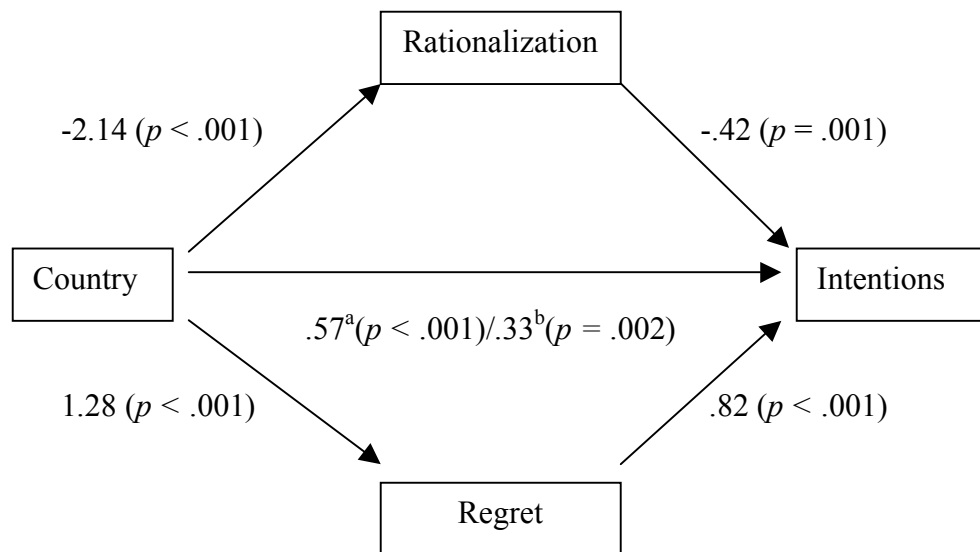
Note. N = 3,402.

[a]The first coefficient is the zero-order relation between county and intentions

to quit smoking.

[b]The second coefficient is the effect of country on intention after controlling

for the effects of rationalization and regret.

In sum, Thai and Malaysian smokers differed in their intentions to quit smoking. That is, Thai smokers were more likely to have intentions to quit within six months than Malaysian smokers. Moreover, rationalization and regret helped explain why the two countries differed in intentions to quit. Thai smokers were less likely to rationalize and more likely to regret smoking than Malaysian smokers. As a consequence, Thai smokers were more likely to have intentions to quit than Malaysian smokers.

In the next section, I examine factors contributing to the country differences in rationalization and regret. More specifically, I present mediation models depicting that social norms and cultural value are mediators of the country differences in rationalization and regret. I present the mediation model of rationalization and I then move to the mediation model of regret.

4.4 Mediation Models of Rationalization and Regret

In the previous section, I presented the prevalence data which indicated that only 9.5% of Thai smokers rationalized, whereas almost 50% of Malaysian smokers rationalized smoking. To understand possible mechanisms for why the two countries differed in rationalization, I conducted analyses of possible mediators. I chose to examine the possible mediational role of two kinds of variables: (1) norms against smoking (of which there were two types—i.e., society norm: "Malaysian [*or* Thai] society disapproves of smoking," and people norm; "People who are important to you believe that you should not

smoke"); (2) vertical collectivism, which is a variable of important frame from

cultural psychology ("You would give up an activity you really enjoy if your

family did not approve"). I also wanted to examine the possible mediational

role of the interaction between norms and vertical collectivism.

4.4.1 Primary analyses of society norm, people norm and vertical collectivism

Before examining mediation effects of society norm, people norm, and vertical

collectivism on rationalization and regret, I present the mean differences

between Thailand and Malaysia on these three variables.

Figure 3A shows the means of society norm in Malaysia and Thailand. The

society norm measure was a 5-point scale from strongly disagree (1) to

strongly agree (5). Thai smokers were higher in social norm than Malaysian

smokers, t (3712) = -34.58, $p < .001$.

Figure 3A.

Means of social norm by country
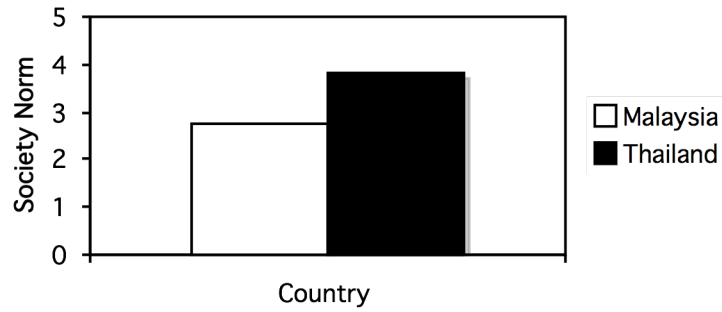
Figure 3B shows the means of people norm in Malaysia and Thailand. The people norm measure was a 5-point scale from strongly disagree (1) to strongly agree (5). Thai smokers were higher in people norm than Malaysian smokers, t (3823) = -10.33, $p < .001$.

Figure 3B.

Means of people norm by country

50
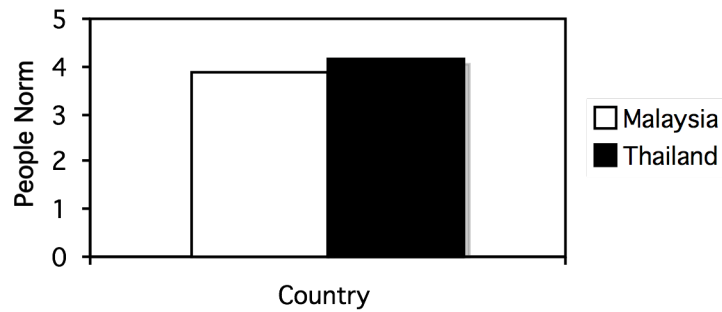
Finally, Figure 3C shows the means of vertical collectivism in Malaysia and Thailand. The vertical collectivism measure was a 5-point scale from strongly disagree (1) to strongly agree (5). Thai smokers were higher in vertical collectivism than Malaysian smokers, t (3758) = -10.61, $p < .001$.

Figure 3C.

Means of vertical collectivism by country.
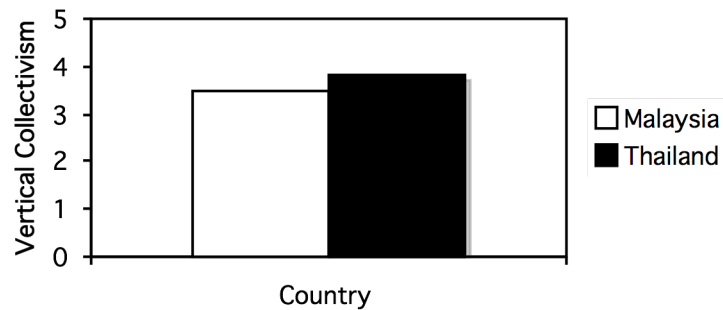
4.4.2 Mediation model of rationalization

In the model, all variables pertaining to demographics, smoking-/quitting- and health-relevant variables, and perceived financial cost were controlled. Figure 4 presents the mediation model of rationalization. Note that country is an

independent variable (A) hypothesized to cause differences in rationalization (C) through society norm (B_1), people norm (B_2) and vertical collectivism (B_3).

The question measuring society norm was "Malaysian [*or* Thai] society disapproves of smoking," and the question measuring people norm was "People who are important to you believe that you should not smoke." The question measuring vertical collectivism was "You would give up an activity you really enjoy if your family did not approve."

Neither society norm nor people norm were significant mediators of the country and rationalization relation. Although there were significant paths between country and society norm and between country and people norm (both *ps* < .001), the paths between society norm and rationalization and between people norm and rationalization were not significant.

In contrast, vertical collectivism was a significant mediator of the relation between country and rationalization. There was a significant relation between country and VC (*b* = .26, *p* < .001) (as described above, Thai smokers were significant higher in vertical collectivism than Malaysian smokers) and to complete the casual chain, there was a significant relation between vertical collectivism and rationalization (*b* = -.21, *p* = .002) (those higher in vertical collectivism were significantly less likely to rationalize). The relation between country and rationalization was reduced when vertical collectivism was in the

52

model indicating that vertical collectivism mediated the relation between country and rationalization (Sobel test = -2.54, $p = .011$).

Finally, the country and rationalization relation was also mediated by the interaction between vertical collectivism and society norm ($b = .15$, $p = .009$) The sign of the interaction term (positive) indicates that society norm was not a mediator of the country and rationalization relation except when vertical collectivism was also high. This means that Thai smokers, especially among those who were more traditional (high in vertical collectivism), perceived their society disapprovals more strongly (high in society norm) than Malaysian smokers, and this explained, in part, why Thai smokers were less likely to rationalize smoking than Malaysian smokers.

Overall, Thai smokers were less likely to rationalize smoking than Malaysian smokers. This was due to, in part, the fact that Thai smokers were high in vertical collectivism (that is, more traditional) and thus more strongly influenced by the family's opinion against smoking. Society norm and people norm did not explain why Thai smokers are less likely to rationalize than Malaysian smokers. However, Thai smokers, especially among those who were more traditional (high in vertical collectivism), perceived their society disapprovals more strongly (high in society norm) than Malaysian smokers and this explained, in part, why Thai smokers were less likely to rationalize than Malaysian smokers.

Figure 4.

Mediation model of rationalization
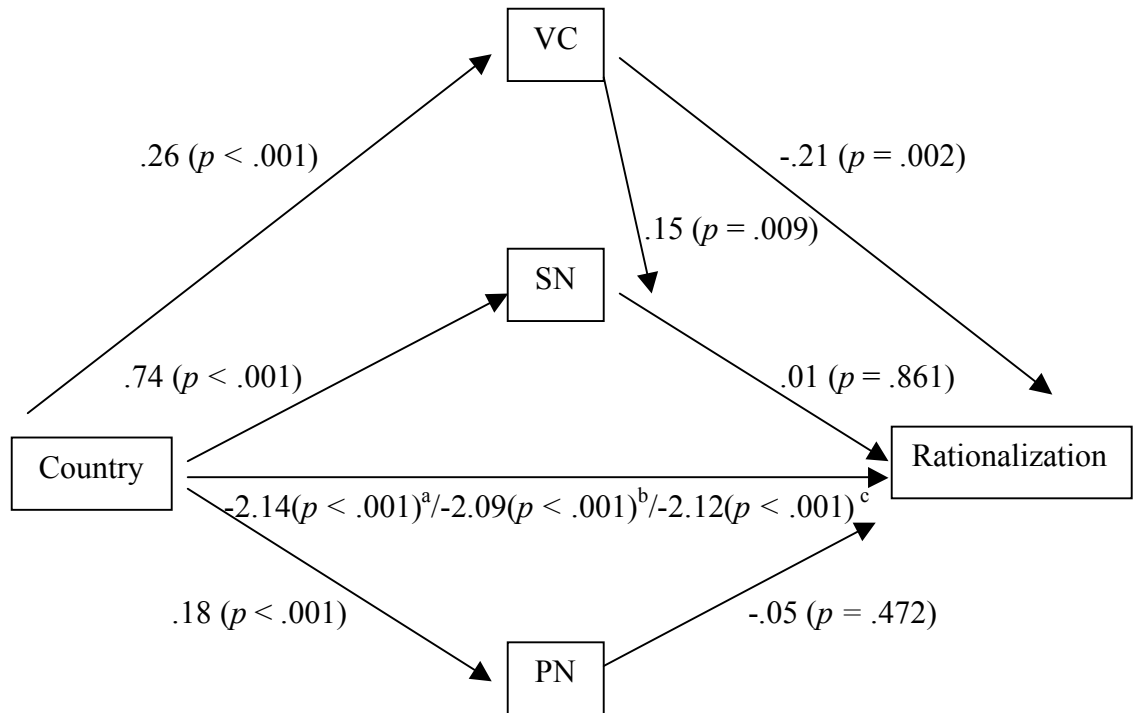
Note. N = 1830.

VC indicates vertical collectivism, SN indicates society norm, and PN indicates people norm.

[a]The first coefficient is the zero-order relation between county and rationalization, [b]the second coefficient is the effect of country on rationalization after controlling for the effects of social norm, people norm and VC, and [c]the last coefficient is the effect of country on rationalization after controlling for the effects of social norm X VC, and people norm X VC. The path of interaction between people norm and VC is not shown here because it is not significant.

4.4.3 Mediation model of regret

Next, I present the parallel analyses conducted on smokers' regret. In this model, I controlled for all demographic variables, smoking-/quitting- and health-relevant variables, and a perceived financial cost variable consistent with the mediation model of rationalization. Figure 5 shows the mediation model of regret. Note that country is an independent variable (A) hypothesized to cause differences in regret (C) through society norm (B_1), people norm (B_2) and vertical collectivism (B_3).

People norm was a significant mediator of the country and rationalization relation. There was a significant relation between country and people norm ($b = .17, p < .001$), indicating that Thai smokers were higher in people norm than Malay smokers. Also there was a significant relation between people norm and regret ($b = .31, p < .001$), indicating that those higher in people norm were significantly more likely to regret. The relation between country and regret was reduced when people norm was in the model (Sobel test $= 2.55, p = .011$).

However, society norm was not significant mediator of the country and rationalization relation. Although there was a significant path between country and society norm ($b = .74, p < .001$), the path between society norm and regret was not significant.

Vertical collectivism also was a significant mediator of the relation between country and rationalization. There was a significant relation between country and VC ($b = .24$, $p < .001$) (Thai smokers were significant higher in vertical collectivism than Malaysian smokers) and there was a significant relation between vertical collectivism and regret ($b = .18$, $p = .028$) (those higher in vertical collectivism were significantly more likely to regret). The country and regret relation was reduced when vertical collectivism was in the model (Sobel test = 1.96, $p = .049$).).

Finally, the country and regret relation was also mediated by the interaction between vertical collectivism and society norm ($b = .15$, $p = .030$). The sign of the interaction term (positive) indicates that society norm was not a mediator of the country and regret relation except when vertical collectivism was also high. In other words, Thai smokers, especially among those who were more traditional (high in vertical collectivism), perceived their society's disapproval was stronger (high in society norm) than Malaysian smokers, and this explained, in part, why Thai smokers were more regretful than Malaysian smokers. As found in rationalization, this pattern of results highlights again the importance of vertical collectivism both as a main effect and as a moderator of society norm.

Next, the country and regret relation was mediated by the interaction between vertical collectivism and people norm ($b = .14$, $p = .050$). Thai smokers were more likely to regret than Malaysian smokers because Thai smokers thought

56

they should give up smoking due to their family's disapproval, and this was particularly true for those who perceived their significant people disapproving smoking.

Overall, Thai smokers are more likely to regret smoking than Malaysian smokers. This country difference in regret is explained as follows. First, Thai smokers are more traditional (higher in vertical collectivism) and they commonly think they should give up smoking if their family disapproves. Second, Thai smokers commonly believe that people who are important to them disapprove smoking (people norm). Additionally, Thai smokers, among those who are more traditional, who also believe highly that society and smokers' important people disapprove smoking, are more likely to regret smoking.

Figure 5.

Mediation model of regret
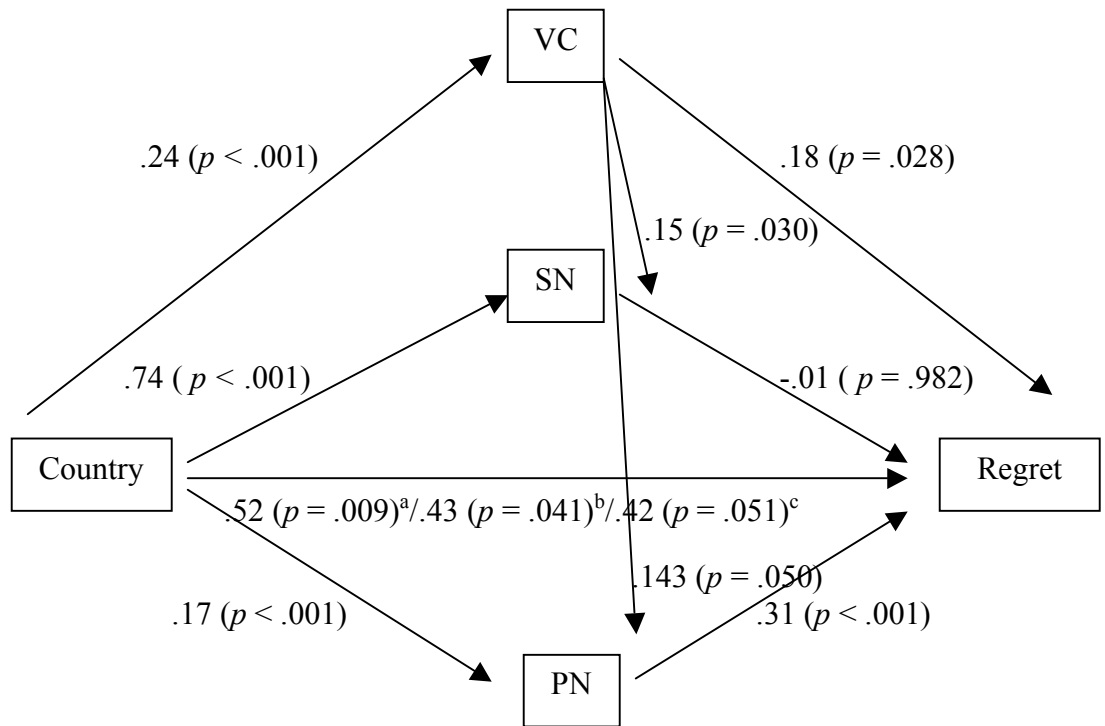
Note. N=1837.

VC indicates vertical collectivism, SN indicates society norm, and PN indicates people norm.

[a]The first coefficent is the direct effect of country on regret, [b]the second one is the effect of country on regret after controlling for the effects of social norm, people norm and VC, [c]the last one is the effect of country on regret after controlling for the effects of social norm X VC, and people norm X VC.

To summarize the findings from the mediation models of rationalization and regret, Thai smokers and Malaysian smokers differ in their levels of rationalization and regret. Thai smokers are less likely to rationalize, but more likely to regret, than Malaysian smokers. To explain why the countries differ in rationalization and regret, I conducted mediation analyses with two norms and vertical collectivism as mediators. Vertical collectivism helps explain why the two countries differ in both rationalization and regret: Thai smokers are more traditional and concerned about how their family thinks about their behaviour, including smoking. In this context, it is difficult to rationalize smoking more to Thai smokers than Malaysian smokers, and Thai smokers are usually more regretful than Malaysian smokers.

As for the two norms, society norm does not explain why the countries differ either in rationalization or regret, whereas people norm explains the country difference in regret, but not in rationalization. Even though Thai smokers believe that their important people disapprove smoking (people norm) more strongly than the Malaysian smokers, they continue to smoke. This does not make Thai smokers engage in rationalization, rather they are more likely to regret that they started smoking compared to Malaysian smokers.

Although society norm alone does not explain the country difference in rationalization, the interaction between society norm and vertical collectivism explain the country differences in rationalization. That is, Thai smokers, especially among those who were more traditional (high in vertical

59

collectivism), are more likely to believe that Thai society disapproves smoking and this explains, in turn, why Thai smokers are less likely to rationalize smoking than Malaysian smokers.

The interactions between society norm and vertical collectivism, and between people norm and vertical collectivism explain the country difference in regret. Thai smokers, especially among those who were more traditional (high in vertical collectivism), are more likely to believe that Thai society disapproves smoking (high in society norm) and that people who are important to smokers disapprove smoking (high in people norm). This explains, in turn, why Thai smokers are more likely to regret smoking than Malaysian smokers.

Thus far, I have shown mediation models depicting how the two norms and vertical collectivism explain the country differences in rationalization and regret. In the next section, I examine additional factors that predict rationalization and regret. First, I present the predictors of rationalization and regret, and then compare them to the predictors of rationalization.

4.5 Predictors of Rationalization: Logistic Regression Model

To examine possible predictors of rationalization, I conducted logistic regression analyses. Rationalization was dichotomized so that 1= agree, or strongly agree, and 0= strongly disagree, disagree, or neither disagree nor agree. Variables were entered in blocks as follows:

- Block 1: Demographic variables, variables relevant to smoking and quitting, health-relevant variables, and variables related to perceived financial cost, perceived social norms, and vertical collectivism

- Block 2: Country variable
- Block 3: Interactions between all variables and country variables

Table 2 shows the results of all predictors of rationalization. I present the result of country predictor first. I, then, present the results of each predictor and its interaction with country.

4.5.1 Country variable

The mediation analysis suggested that the two countries differed in experiencing rationalization. The logistic analysis confirmed the previous finding. The country variable was a strong predictor of rationalization. Thai smokers were less likely to report rationalization than Malaysian smokers ($OR = .13, p < .001$). Among Thai smokers, only 9.5% of them rationalized their smoking, whereas 45.1% of Malaysian smokers rationalized.

4.5.2 Demographic variables

The four demographic variables were entered as predictors: gender, age, education, and income. Gender was not a significant predictor. This is consistent with previous findings. For example, although Borland and his colleagues (in prep) found that male smokers were more likely to endorse most self-exempting beliefs, the "worth-it beliefs," which were used in the current study, did not differ between male and female smokers. Oakes et al. (2004) did not find gender differences. Although the main effect of gender to predict rationalization was not significant, the interaction between gender and country was significant (interaction $OR = 2.32$, $p = .006$). That is, Thai female smokers were more than two times more likely to rationalize smoking than male smokers, whereas this gender difference was not found in Malaysia.

The age variable was not a significant predictor in the current model. This appears inconsistent with previous findings. Borland et al. (in prep) found that older smokers were more likely to endorse self-exempting beliefs, as well as Oakes et al. (2004) and Hong et al. (2005). The interaction between age and country was not significant.

The education variable partially predicted rationalization. Overall, there was a pattern depicting that smokers who were more educated were more likely to rationalize. More specifically, smokers who had a technical or community

62

college level of education were more likely to rationalize smoking than smokers who completed high school (or less) ($OR = 1.80$, $p < .001$). This pattern of results did not differ by country. My findings are not consistent with Borland et al.'s (in prep). They found that smokers with lower education were more likely to rationalize. Oakes and colleagues did not find an education difference for worth-it beliefs (2004).

Income also partially predicted rationalization. There was a pattern showing that smokers who had higher incomes were less likely to rationalize. Specifically, smokers with medium incomes were less likely to rationalize than smokers with low incomes ($OR = .80$, $p = .018$). Although there was no statistical difference between smokers with low incomes and smokers with high incomes, the pattern was the same: smokers with high incomes tended to be less likely to rationalize than smokers with low incomes. This pattern of results did not differ by country.

4.5.3 Smoking- and quitting-relevant variables

The six smoking- and quitting-relevant variables were entered as predictors: cigarettes smoked per day, time after waking up until the first cigarette, perceived addiction, prior quit attempts, perceived benefits of quitting, and smoker of light cigarettes. The five variables were significant predictors with the exception of perceived addiction. More detailed results of significant predictors are as follows.

Individuals who smoked more cigarettes were more likely to rationalize than smokers who smoked fewer cigarettes ($OR = 1.14$, $p < .020$). This is consistent with Oakes et al.'s findings (2004). In their study, heavy smokers (those who smoked over 15 cigarettes per day) were more likely to hold worth-it beliefs. The interaction between cigarettes smoked per day and country was significant (interaction $OR = .71$, $p = .014$), indicating that smokers who smoked less cigarettes were less likely to rationalize and this was especially true for Thai smokers. Also, individuals who smoked the first cigarette some time after waking up rather than immediately, were more likely to rationalize ($OR = 1.14$, $p < .001$). This did not differ by country.

Perceived addiction was not a significant predictor of rationalization. There was no interaction between perceived addiction and country.

Smokers who attempted to quit smoking multiple-times were less likely to rationalize ($OR = .69$, $p < .001$). The interaction between prior quit attempts and country was significant (interaction $OR = .65$, $p = .001$). That is, smokers who had multiple quit attempts were less likely to rationalize and this was especially true for Thai smokers.

Smokers who perceived quitting as beneficial were less likely to rationalize smoking ($OR = .35$, $p < .001$). The rationalization prevalence was 38.0% for smokers who perceived no benefits of quitting, whereas 17.5% for smokers who perceived benefits. This pattern did not differ by country.

Smokers who smoked "light" cigarettes ($OR = .80$, $p < .016$) were also less likely to rationalize smoking. These did not differ by country.

4.5.4 Health-relevant variables

All three health-relevant variables predicted rationalization: an overall self-rating of health, the perception that smoking had already damaged health, and concerns that smoking will damage health in the future. Individuals who considered themselves to be healthy were more likely to rationalize ($OR = 1.92$, $p = .001$). For example, the rationalization prevalence was 17.6% for smokers who thought their health was poor, whereas 36.4% for smokers who thought their health was excellent.

Smokers who believed that smoking had already damaged their health ($OR = .34$, $p < .001$) were less likely to rationalize. The rationalization prevalence was 33.8% for smokers who did not think that smoking had already damaged their health. In contrast, the rationalization prevalence was 14.6% for smokers who thought that smoking had damaged health.

Smokers who worried that smoking would damage their health in the future ($OR = .56$, $p < .001$) were less likely to rationalize. The rationalization prevalence was 29.7% for smokers who did not worry, whereas the prevalence was 19.1% for smokers who worried.

None of these results of the three health relevant variables differed by country.

4.5.5 Perceived financial cost

Smokers who thought that they spent too much money on cigarettes were less likely to rationalize ($OR = .89$, $p = .002$). The interaction between perceived financial cost and country was significant (interaction $OR =1.23$, $p < .001$), indicating that smokers who did not think that they spent too much money on cigarettes were more likely to rationalize their smoking, and this was especially true for Malaysian smokers.

4.5.6 Perceived social norms about smoking

Both measures of perceived social norms predicted rationalization. The two measures of social norms were the items asking smokers to think about whether society disapproved of smoking (society norm) and whether people who were important to them disapproved of smoking (people norm).

Smokers who thought that their society disapproved of smoking were less likely to rationalize ($OR = .64$, $p < .001$). The interaction between society norm and country was significant (interaction $OR = 1.35$, $p = .001$). Smokers who did not think that their society disapproved their smoking were more likely to rationalize, and this was especially true for Malaysian smokers.

Smokers who perceived that their important people disapproved of smoking were less likely to rationalize ($OR = .76$, $p < .001$). This pattern did not differ by country.

4.5.7 Vertical collectivism

Smokers who would give up their favourite activity if their family did not approve were less likely to rationalize ($OR = .77$, $p < .001$). This pattern of results did not differ by country.

I will now summarize the typical characteristics of smokers who rationalize smoking. They are more educated with lower incomes. Although they smoke their first cigarettes some time after waking up rather than immediately, they smoke a lot and do not smoke "light" cigarettes. They have few to no attempts to quit and do not perceive any benefit of quitting. Overall, they are optimistic about their health: they think that they are healthy and they do not think or worry that smoking has already damaged and will damage their health. They do not think they spend too much money on cigarettes. Also, they do not perceive that society and their important people are disapproving of smoking. They are less traditional in the sense that they would keep engaging in an activity they like even if their family did not approve.

Table 2.

Logistic regression analysis of rationalization

Predictor	Rationalization[a]	Odds ratio[b](95% *CI*)	*p*
Country			
Malaysia	45.1%	1	
Thailand	9.5%	.13 (.11- .15)	< .001
Demographic variables			
Gender			
Male	26.0%	1	
Female	28.0%	1.12 (.84-1.51)	.450
Age (years)			
18-24	28.2%	1	
25-39	26.3%	.91 (.70-1.18)	.464
40-54	23.7%	.79 (.62-1.02)	.068
55+	27.7%	.80 (.75-1.27)	.861
Education			
Completed high school or less	25.0%	1	
Technical or trade school or community college	37.5%	1.80 (1.35-2.40)	< .001
Complete at least a university degree	28.8%	1.22 (.82-1.80)	.334
Income			
Low	27.0%	1	
Medium	23.6%	.80 (.67- .96)	.018
High	25.1%	.87 (.72-1.04)	.119

Table 2.

Continued.

Predictor	Rationalization[a]	Odds ratio[b](95% *CI*)	*p*
Smoking- and quitting-relevant variables			
Cigarettes smoked per day		1.14 (1.02-1.26)	.020
1-10	24.9%		
11-20	27.6%		
21-30	23.5%		
31+	37.2%		
Time after waking up until first cigarette		1.14 (1.32-1.57)	<.001
Within 5 minutes	19.0%		
6-30 minutes	16.7%		
31-60 minutes	32.7%		
61+ minutes	31.0%		
Perceived addiction		1.02 (.91-1.14)	.070
Not at all	25.2%		
Yes, somewhat addicted	25.9%		
Yes, very addicted	26.1%		
Prior quit attempts:		.69 (.62- .77)	< .001
Number of prior quit attempts			
0	33.9%		
1-3	22.2%		
More than 3	20.7%		

Table 2.

Continued.

Predictor	Rationalization[a]	Odds ratio[b](95% *CI*)	*p*
Perceived benefits of quitting: How much do you think you would benefit from health and other gains if you were to quit smoking permanently within the next 6 months?			
Not at all	38.0%	1	
Somewhat/ Very much	17.5%	.35 (.30- .41)	< .001
Smoker of "light" cigarettes			
No	30.7%	1	
Yes	26.2%	.80 (.67- .96)	.016
Health-relevant variables			
Overall self-rating of health:		1.92 (1.72-2.14)	< .001
In general, how would you describe your health?			
Poor	17.6%		
Fair	13.4%		
Good	32.7%		
Very Good	38.8%		
Excellent	36.4%		
Perception that smoking has already damaged health: To what extent, if at all, has smoking damaged your health?			
Not at all	33.8%	1	
Somewhat/ Very much	14.6%	.34 (.28- .40)	< .001
Worry that smoking will damage health in the future: How worried are you, if at all, that smoking will damage your health in the future?			
Not at all	29.7%	1	
Somewhat/ Very much	19.1%	.56 (.48- .66)	< .001

Table 2

Continued.

Predictor	Rationalization[a]	Odds ratio[b](95% *CI*)	*p*
Perceived financial cost			
Perceived financial cost of smoking: You spend too much on cigarettes.		.89 (.83- .96)	.002
Strongly disagree	30.3%		
Disagree	30.9%		
Neither agree nor disagree	18.9%		
Agree	25.3%		
Strongly agree	23.1%		
Perceived social norms			
Society disapproves of smoking		.64 (.59- .69)	< .001
Strongly disagree	38.2%		
Disagree	39.1%		
Neither agree nor disagree	21.4%		
Agree	18.9%		
Strongly agree	14.6%		
People who are important to you believe that you should not smoke		.76 (.70- .83)	< .001
Strongly disagree	20.0%		
Disagree	39.5%		
Neither agree nor disagree	27.2%		
Agree	25.7%		
Strongly agree	19.4%		

Table 2.

Continued.

Predictor	Rationalization[a]	Odds ratio[b](95% *CI*)	*p*
Vertical collectivism:		.77 (.71- .83)	< .001
You would give up an activity you really enjoy if your family did not approve.			
Strongly disagree	42.9%		
Disagree	35.3%		
Neither agree nor disagree	24.3%		
Agree	24.3%		
Strongly agree	22.7%		
Interactions with country[c]			
Gender X Country		2.32 (1.24-4.34)	.006
Cigarettes per day X Country		.71 (.55- .94)	.014
Quit attempt X Country		.65 (.50- .84)	.001
Financial cost X Country		1.23 (1.20-1.77)	<.001
Society norm X Country		1.35 (1.09-1.66),	.005

Note. [a]The rationalization prevalence represented for each response category of each predictor are not adjusted for the other predictors in the model. [b]An odds ratio of 1.00 implies that the event is equally likely in two groups. An odds ratio greater than 1.00 implies that the event is more likely in the first group. An odds ratio less than 1.00 implies that the event is less likely in the first group. [c]Only significant interactions with country are presented here.

4.6 Predictors of Regret: Logistic Regression Model

Next, I examine predictors of regret and show the results of the logistic

regression analyses. The regret variable was dichotomized so that 1= agree or

strongly agree, and 0= strongly disagree, disagree, or neither disagree nor

agree. Variables were entered in blocks as follows:

- Block 1: Demographic variables, variables relevant to smoking and

  quitting, health-relevant variables, and variables related to perceived

  financial cost, perceived social norms, and vertical collectivism

- Block 2: Country variable

- Block 3: Interactions between all variables and country variables

Table 3 shows the results of all predictors of regret. I present the result of

country predictor first. I, then, present the results of each predictor and its

interaction with country.

4.6.1 Country variable

Fong et al. (2004) had found that smokers in four countries—Canada, U.S., U.K., Australia—did not differ in the prevalence of regret. However in this study, prevalence of regret did differ by country. Smokers in Thailand were more likely to report regret than smokers in Malaysia (OR=3.12, $p < .001$). Among Thai smokers, 92.2% of them reported that they regretted their smoking, whereas 79.0% of Malaysian smokers regretted.

4.6.2 Demographic variables

Among the four demographic variables, age and education were significant predictors of regret, which is consistent with Fong et al. (2004). Older smokers were more likely to regret smoking than younger smokers (ORs = 1.24-1.58). The interaction between age and country was significant: Older smokers were more likely to regret than younger smokers, especially among Thai smokers.[5]

More educated smokers tended to be less likely to regret. Specifically, smokers with a high school level of education were more likely to regret than smokers with a community college level of education ($OR = .65$, $p = .019$). To put it differently, smokers with higher education were less likely to regret than smokers with lower education. This pattern of results did not differ by country.

In contrast to Fong et al. (2004), gender was not a significant predictor. Income was not a significant predictor either and this is consistent with Fong et al. (2004). The interactions between country and gender, and country and income were not significant.

4.6.3 Smoking- and quitting-relevant variables

Among the six smoking- and quitting-relevant variables, four variables—the time after waking up until the first cigarette, perceived addiction, prior quit attempts, and perceived benefits of quitting—predicted regret.

The two addiction measures were significant predictors. The objective measure of dependence—the time after waking until the first cigarette—and the subjective measure of dependence—perceived addiction—predicted regret similar to how more addicted smokers were more likely to regret.

Smokers who smoked their first cigarette later than immediately after waking up were less likely to regret ($OR = .87$, $p = .010$). In other words, smokers who smoked their first cigarettes immediately after waking up (this indicates that they were more addicted to cigarettes) were more likely to regret.

Smokers who considered themselves addicted to cigarettes were more likely to regret ($OR = 1.29$, $p < .001$). Interestingly, this consistent result between the objective and the subjective measures of dependence was not found in Fong et

al. (2004). They reported that the objective measure did not predict regret, but the subjective measure did predict regret. The results of both objective and subjective measures for dependence did not differ by country.

Consistent with findings from Fong et al. (2004), smokers who attempted to quit multiple times were more likely to regret ($OR = 1.77$, $p < .001$). The regret prevalence was 76.8% for smokers who never tried to quit smoking, 91.4% for smokers who tried one to three times. This pattern of results did not differ by country.

Consistent with findings from Fong et al. (2004), smokers who perceived quitting as beneficial were more likely to regret ($OR = 3.29$, $p < .001$). The regret prevalence was 77.1% for smokers who did not think any benefits of quitting, whereas 91.7% for smokers who perceived benefits of quitting. This pattern of results did not differ by country.

Finally, although Fong et al. found that smoking light cigarettes predicted regret, the "light" cigarette variable was not a significant predictor of regret in Thailand and Malaysia. The interaction between "light" cigarettes and country, however, was significant (interaction $OR = .53$, $p = .025$), indicating that smokers who did not smoke "light" cigarettes were less likely to regret and this is true for Malaysian smokers but not for Thai smokers.

4.6.4 Health-relevant variables

All three of the health-relevant variables predicted regret. Individuals who thought that they were healthy were less likely to regret ($OR = .66, p < .001$). In other words, smokers who thought that they were not healthy were more likely to regret.

Smokers who thought that smoking had already damaged their health were more likely to regret ($OR = 3.65, p < .001$). In particular, the perception that smoking had already damaged their health was a very strong predictor of regret. Smokers who thought that smoking had already damaged their health were more than three times likely to regret than those who did not think smoking had already harmed their health. Interestingly, neither general health rating nor the perception that smoking had already damaged health was a significant predictor in Fong et al.'s study (2004). The third health-relevant variable, worries that smoking will damage their health in the future, was a strong predictor of regret ($OR = 2.97, p < .001$), which is consistent with Fong et al. (2004). Smokers who did worry that smoking would damage health in the future were almost three times likely to regret than those who did not worry. The results of all three health-relevant variables did not differ by country.

4.6.5 Perceived financial cost

Consistent with findings from Fong et al. (2004), individuals who thought that they spent too much money on cigarettes were more likely to regret ($OR = 1.63, p < .001$). This did not differ by country.

4.6.6 Perceived social norms about smoking

Both norms (society norm and people norm) predicted regret, consistent with Fong et al. (2004). Individuals who agreed that their society was disapproving of smoking were more likely to regret ($OR = 1.56, p < .001$). Individuals who agreed that their important people were disapproving of smoking were more likely to regret ($OR = 1.94, p < .001$). The interaction between society norm and country was significant (interaction $OR = 1.83, p < .001$). Smokers who believed strongly that their society disapproved smoking were more likely to regret and this was especially true for Thai smokers. The same pattern of interaction was detected for people norm. Smokers who believed strongly that their important people disapproved their smoking were more likely to regret and this was especially true for Thai smokers (interaction $OR = 1.25, p = .035$).

4.6.7 Vertical collectivism

Individuals who agreed that they would give up their favourite activity if their family did not approve were more likely to regret ($OR = 2.97, p < .001$).

78

Finally, the interaction between vertical collectivism and country was significant (interaction $OR = 1.24$, $p = .037$). Smokers who were more traditional and thus would give up their favourite activity including smoking were more likely to regret, and this was particularly true for Thai smokers.

I will summarize the typical characteristics of regretful smokers. They are older and tend to be less educated. They are physiologically addicted, demonstrating that they smoke their first cigarette shortly after waking up and they acknowledge being addicted to smoking. They think quitting is personally beneficial and (thus) have tried to quit multiple times. Regretful smokers are not confident with their health, believe that smoking has already damaged their health, worry that smoking will damage their health in the future, and they are concerned about the amount of money they spend on cigarettes. Also, they perceive that society and people who are important to them are disapproving of smoking. They are traditional, thus they would try to give up their favourite activity including smoking if their family did not approve.

Table 3.

Logistic regression analysis of regret

Predictor	Regret	Odds ratio (95% *CI*)	*p*
Country			
Malaysia	79.0%	1	
Thailand	92.2%	3.12 (2.55-3.81)	.001
Demographic variables			
Gender			
Male	86.0%	1	
Female	85.9%	.96 (.68-1.44)	.960
Age (years)			
18-24	81.3%	1	
25-39	87.2%	1.57 (1.15-2.13)	.004
40-54	87.3%	1.58 (1.17-2.12)	.003
55+	84.3%	1.24 (.91-1.69)	.175
Education			
Completed high school or less	86.4%	1	
Technical or trade school or community college	80.7%	.65 (.46- .93)	.019
Complete at least a university degree	83.5%	.79 (.49-1.28)	.337
Income			
Low	87.2%	1	
Medium	86.8%	.97 (.76-1.23)	.781
High	84.8%	.82 (.65-1.03)	.084

Table 3.

Continued.

Predictor	Regret	Odds ratio (95% *CI*)	*p*
Smoking- and quitting-relevant variables			
Cigarette smoked per day		.93 (.81- 1.06)	.250
1-10	86.8%		
11-20	85.0%		
21-30	87.5%		
31+	84.2%		
Time after waking until first cigarette		.87 (.78- .97)	.010
Within 5 minutes	85.7%		
6-30 minutes	90.8%		
31-60 minutes	84.1%		
61+ minutes	83.7%		
Perceived addiction		1.29 (1.13-1.49)	< .001
Not at all	80.6%		
Yes, somewhat addicted	86.8%		
Yes, very addicted	87.8%		
Prior quit attempts:		1.77 (1.54-2.03)	< .001
Number of prior quit attempts			
0	76.8%		
1-3	91.4%		
More than 3	88.6%		

Table 3.

Continued.

Predictor	Regret	Odds ratio (95% *CI*)	*p*
Perceived benefits of quitting: How much do you think you would benefit from health and other gains if you were to quit smoking permanently within the next 6 months?			
Not at all	77.1%	1	
Somewhat/ Very much	91.7%	3.29 (2.70-4.01)	< .001
Smoker of "light" cigarettes			
No	83.9%	1	
Yes	86.6%	1.25 (.99-1.56)	.059
Health-relevant variables			
Overall self-rating of health:		.66 (.58- .75)	< .001
In general, how would you describe your health?			
Poor	91.6%		
Fair	90.7%		
Good	82.5%		
Very Good	84.7%		
Excellent	79.4%		
Perception that smoking has already damaged health: To what extent, if at all, has smoking damaged your health?			
Not at all	80.1%	1	
Somewhat/ Very much	93.6%	3.65 (2.9-4.60)	< .001
Worry that smoking will damage health in the future: How worried are you, if at all, that smoking will damage your health in the future?			
Not at all	81.6%	1	
Somewhat/ Very much	92.9%	2.97 (2.37-3.71)	< .001

Table 3.

Continued.

Predictor	Regret	Odds ratio (95% *CI*)	*p*
Perceived financial cost			
Perceived financial cost of smoking: You spend too much on cigarettes.		1.63 (1.50-1.78)	< .001
Strongly disagree	80.6%		
Disagree	76.4%		
Neither agree nor disagree	69.8%		
Agree	89.1%		
Strongly agree	95.4%		
Perceived social norms			
Society disapproves of smoking		1.56 (1.43-1.71)	< .001
Strongly disagree	80.6%		
Disagree	76.4%		
Neither agree nor disagree	69.8%		
Agree	89.1%		
Strongly agree	95.4%		
People who are important to you believe that you should not smoke		1.94 (1.75-2.14)	< .001
Strongly disagree	64.5%		
Disagree	67.7%		
Neither agree nor disagree	58.1%		
Agree	87.8%		
Strongly agree	93.1%		

Table 3.

Continued.

Predictor	Regret	Odds ratio (95% *CI*)	*p*
Vertical Collectivism:		1.54 (1.40-1.70)	< .001
You would give up an activity you really enjoy if your family did not approve.			
Strongly disagree	74.1%		
Disagree	79.0%		
Neither agree nor disagree	66.8%		
Agree	89.5%		
Strongly agree	94.8%		
Interactions with country[c]			
Age X Country			
18-24		1	
25-39		2.89 (1.40-5.95)	.004
40-54		2.31 (1.20-4.44)	.012
55+		1.74 (.89-3.42)	.105
"Light" cigarettes X Country		.53 (.31- .92)	.025
Society norm X Country		1.85 (1.50-2.24)	< .001
People norm X Country		1.25 (1.02-1.55)	.035
Vertical collectivism X Country		1.24 (1.01-1.53)	.037

Note. [a]The regret prevalence represented for each response category of each predictor are not adjusted for the other predictors in the model. [b]An odds ratio of 1.00 implies that the event is equally likely in two groups. An odds ratio greater than 1.00 implies that the event is more likely in the first group. An odds ratio less than 1.00 implies that the event is less likely in the first group. [c] Only significant interactions with country are presented here.

4.7 Predictor Comparisons between Rationalization and Regret

Thus far, I have shown how various predictors are related to rationalization and regret. I will now compare the overall predictive model for rationalization to the predictive model for regret.

I tested the negative relation between rationalization and regret earlier, showing the correlation -.19. Additionally, in the mediation model of intentions, a negative relation between the two psychological reactions was detected. Specifically, rationalization and regret mediated the relation between country and intentions in the opposite directions. That is, rationalization was negatively related to intentions, whereas regret was positively related to intentions. Also, the mediation models of rationalization and regret showed that the mediators (i.e., society norm, people norm, and vertical collectivism) were related to rationalization and regret in the opposite direction.

Now I present the predictive models of rationalization and regret side-by-side to compare the various predictors of rationalization to the predictors of regret. In doing so, I compiled both Table 2 and Table 3 and present the odd ratios of the predictors for rationalization and regret in Figure 5. Among the 17 variables, 12 variables significantly predicted both rationalization and regret and each of them showed the opposite directions. The significant predictors were as follows.

Country was a significant predictor of both rationalization and regret: Thai smokers were less likely to rationalize, but more likely to regret than Malaysian smokers. The objective dependency measure—time after waking up until the first cigarette—predicted both rationalization and regret. That is, smokers who smoked the first cigarette first thing in the morning were less likely to rationalize, but more likely to regret. Smokers who tried to quit smoking multiple times and who perceived that quitting smoking would be beneficial to their health were less likely to rationalize, but they were more likely to regret. Smokers of "light" cigarettes were less likely to rationalize, but they tended to be more regretful, although it fell short of statistical significance to predict regret ($p = .059$).

All three of the health-relevant variables predicted both rationalization and regret in the expected opposite directions. Smokers who were not confident with their current health, believed smoking had already damaged their health, and worried it will continually damage their health in the future were less likely to rationalize, whereas they were more likely to regret. Also, smokers who thought they spent too much money on cigarettes were less likely to rationalize, but more likely to regret.

Social and cultural norms predicted both rationalization and regret in the opposite directions. Smokers who perceived that their society and significant people disapproved of smoking were less likely to rationalize, but were more likely to regret. Finally, smokers who were traditional (i.e., vertical

86

collectivistic) to the extent that they would stop their favourite activity if their

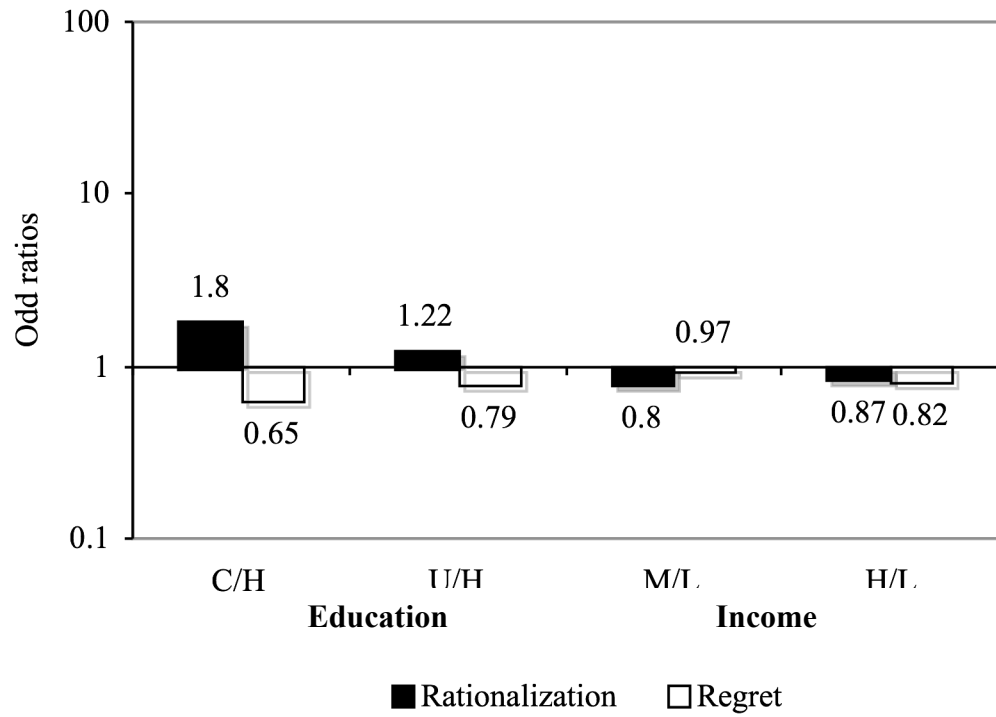family did not like were less likely to rationalize, but more likely to regret.

Figure 6.

Predictors of rationalization and regret
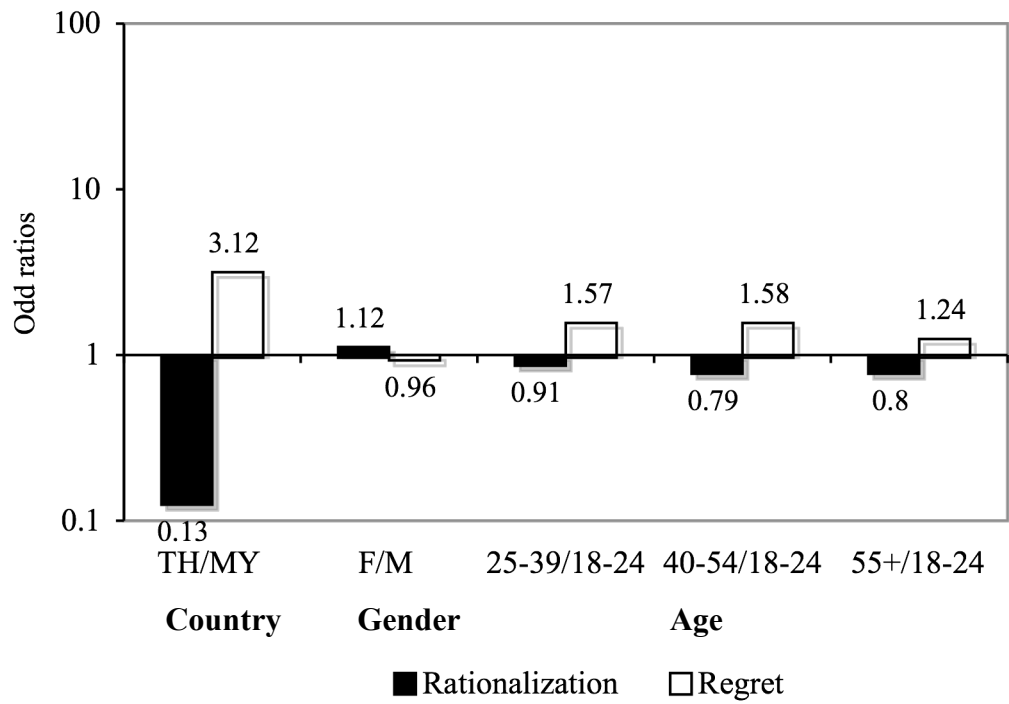
*Note.* For country, TH/MY is an odd ratio of Thailand/Malaysia.

Figure 6.

Continued.

The chart shows odd ratios on a logarithmic y-axis (0.1 to 100). For Education: C/H Rationalization 1.8, Regret 0.65; U/H Rationalization 1.22, Regret 0.79. For Income: M/L Rationalization 0.8, Regret 0.97; H/L Rationalization 0.87, Regret 0.82. Legend: ■ Rationalization □ Regret.

Note. For education, C/H is an odd ratio of College/High school and U/H is University/High school. For income, M/L is an odd ratio of Medium income/Low income and H/L is High income/Low income.

Figure 6.

Continued.
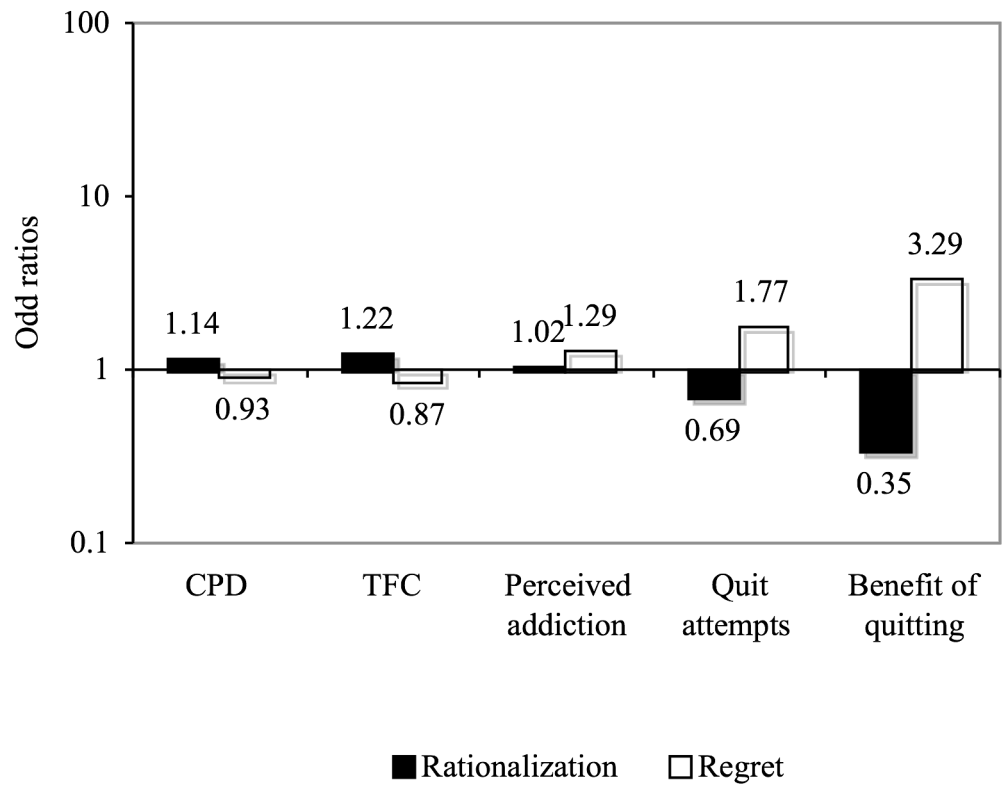
Note. CPD stands for cigarette per day. TFC stands for time for the first

cigarette after waking up.

Figure 6.

Continued.

Figure 6.

Continued.

Figure showing odd ratios on a logarithmic scale (0.1 to 100) for three categories. Rationalization (black) and Regret (white) bars. Society norm: Rationalization 0.64, Regret 1.56. People norm: Rationalization 0.76, Regret 1.94. Vertical collectivism: Rationalization 0.77, Regret 1.54. Legend: ■ Rationalization □ Regret.
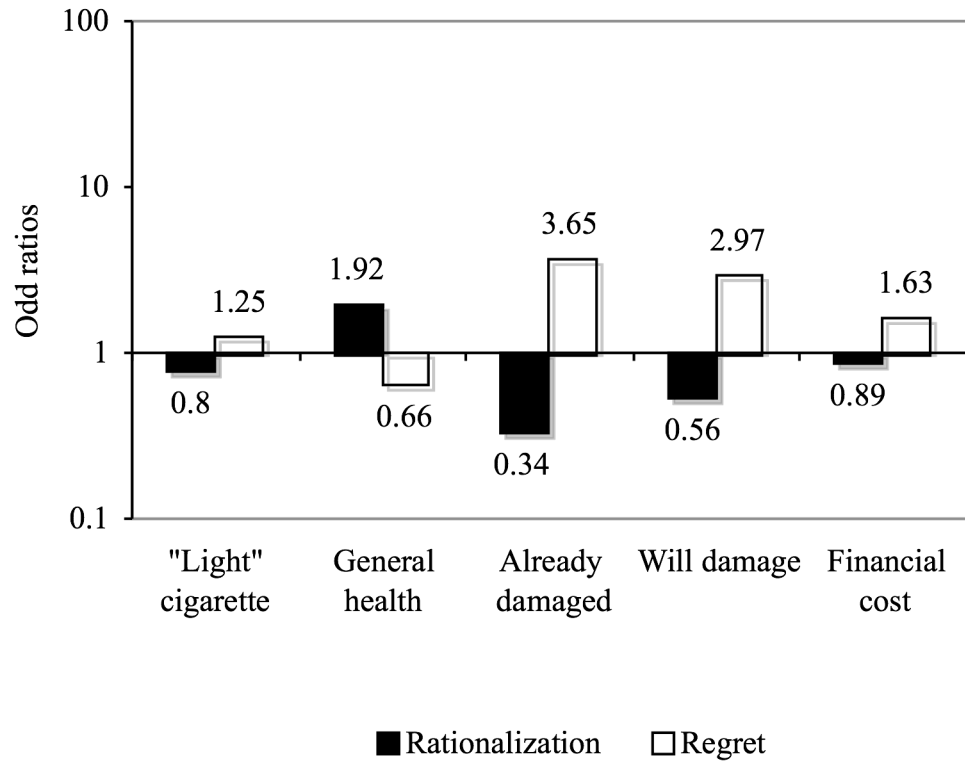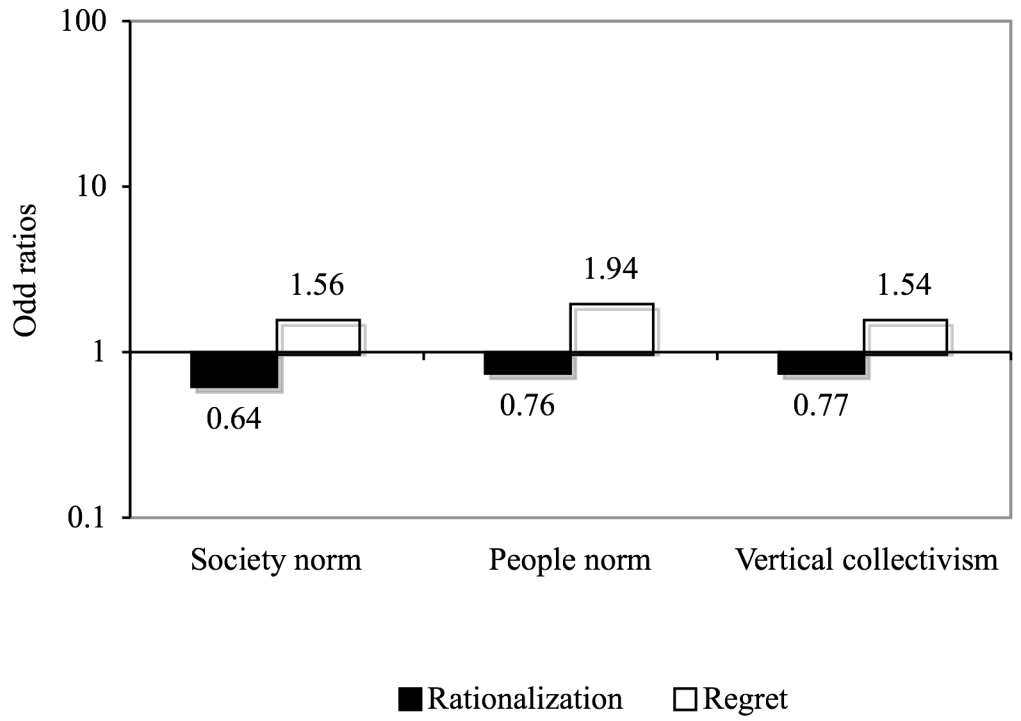
5.0 DISCUSSION

The main goal of the current study was to examine two common psychological experiences among smokers—rationalization and regret—in Thailand and Malaysia. Rationalization and regret are negatively related to each other: When smokers realize that their smoking behaviour is jeopardizing their health, smokers would be more likely to engage in rationalizing their smoking, whereas they would be less likely to regret their smoking, or vice versa. Also, rationalization and regret are related to future behaviour such as intentions to quit.

Thai smokers and Malaysian smokers differed in intentions to quit smoking. Thai smokers, compared to Malaysian smokers, were more likely to have intentions to quit smoking within the next six months. This country difference in intentions to quit smoking is explained, in part, by the country differences in rationalization and regret. Thai smokers were less likely to rationalize and (thus) more likely to regret smoking than Malaysian smokers and these country differences, in part, contributed the fact that Thai smokers than Malaysian smokers had more intentions to quit smoking.

Next, I utilized the psychological constructs of social norms and the cultural psychology construct of collectivism to explain the country differences in rationalization and regret. Thai smokers were more traditional and family oriented and thus, they are more sensitive about their social and familial

93

rejections about smoking. This, in part, contributed the fact that Thai smokers, compared to Malaysian smokers, were less likely to rationalize and more likely to regret smoking.

Finally, I examined various predictors of rationalization and regret. The predictors for rationalization and regret were mirror images, demonstrating the negative relation between rationalization and regret.

In the following section, I discuss the findings from 1) the relations between rationalization, regret and intentions to quit; 2) the influences of society norm and culture on rationalization and regret; and 3) the various predictors of rationalization and regret. Finally, I move to intervention and policy implications and then, to limitations of the current study.

5.1 Rationalization, Regret, and their Relation to Intentions to Quit Smoking

Relative to their Malaysian counterparts, Thai smokers were more likely to have intentions to quit smoking within the next six months: 20.8% of Thai smokers intended to quit, whereas 11.3% of Malaysian smokers intended to quit.

Because intentions are very strongly related to future behaviour such as quitting smoking (Ajzen, 1988, 1991), I conducted mediation analyses to

understand the reasons for this difference in quitting intentions between the two countries. Mediational analyses are designed to test whether a relation between two variables may be " accounted for," " due to," "mediated by," or "explained by" the presence of one or more " mediators" that are conceptually located between the two variables. So in the present case, I conducted mediational analyses to test whether the relation between country and quit intentions might be explained or mediated by two important psychological variables that are the focus of this dissertation—rationalization and regret.

The expectation was that the differences between Thailand and Malaysia in quit intentions would be, at least in part, explained by difference between the two countries in rationalization and regret, and that those variables, in turn, would be significant predictors of quit intentions. Conducting these analyses thus allowed an estimation of each pathway causal chain that was hypothesized to quit intentions.

The findings of the mediational analyses indeed confirm that rationalization and regret play important mediational roles in the pathway from country to quit intentions; that is, rationalization and regret help explain why smokers in Thailand are more likely than smokers in Malaysia to intend to quit.

Thai smokers were less likely to rationalize than Malaysian smokers: the rationalization prevalence was merely 9.5% for Thai smokers, yet 49.1% for Malaysian smokers. Because smokers' rationalizations inhibit smoking

cessation (Borland et al., in prep; Oakes et al., 2004), the prevailing

rationalizations among Malaysian smokers, which predominate compared to

Thai smokers, inhibit smokers' cessation efforts in Malaysia, demonstrated by

lower levels of intentions to quit.

The fact that Malaysian smokers are much more likely to rationalize than Thai

smokers deserves a closer look (the rationalization prevalence is 49.1% for

Malaysian smokers and 9.5% for Thai smokers). Self-exempting beliefs are

viewed as enduring beliefs that smokers are comfortable in accommodating

even if they are interested in quitting (Borland et al., in prep). In particular, the

rationalization measure in the current study is based on smokers' personal cost-

benefit appraisals of smoking (i.e., "You've got to die of something, so why

not enjoy yourself and smoke"). In other words, smokers weigh both the

harms of smoking and experienced benefits of smoking, such as enjoyment or

pleasure, and the perceived benefits of smoking may outweigh the perceived

harms (Oakes et al., 2004). The current study shows that almost 50% of

Malaysian smokers appear to rationalize in this manner, thereby suggesting

that Malaysian smokers may value smoking as an enjoyable activity more than

Thai smokers.

Why do Malaysian smokers perceive more benefits of smoking and endorse

more rationalization, compared to Thai smokers? It may reflect that Malaysia

has a considerably less stringent political and regulatory environment, in which

the tobacco industry's marketing strategies are more pervasive (Assunta &

Chapman, 2004). Moreover, Malaysia has historically been a testing ground

for innovative tobacco promotion strategies that are seemingly evasive of

policies in place, and consequently there is a further reinforcement of the

perceived benefits of smoking (e.g., smoking is fun and enjoyable) in this

environment. For example, the annual Formula One race held in Malaysia

generates significant pro-tobacco publicity, with half of the Formula One

teams being sponsored by tobacco brands. There was the use of various

promotional tools such as banners, huge video screens, and affiliated music

and disco events that are recognized for their excitement, festivity, and

celebration (Simpson, 2004). In such an environment, it is probable that

Malaysian smokers would see smoking as an enjoyable and fun activity, and

that the perceived value of smoking can outweigh the perceived harms.

The findings of the mediational analyses also demonstrate that country

differences in intentions to quit were, in part, explained by regret. Thai

smokers were more likely to regret than Malaysian smokers; the regret

prevalence was 92.2% for Thai smokers and 79.1% for Malaysian smokers.

Research on regret has revealed that regret is an important cognitive-affective

experience among decision-makers, and regret can potentially change their less

desirable behaviour to a more desirable behaviour. Because Thai smokers

were more regretful than Malaysian smokers, Thai smokers would likely be

more motivated to change their smoking behaviour, demonstrated by higher

levels of intentions to quit.

Why do Thailand and Malaysia differ in rationalization and regret? To answer this question, I conducted mediational analyses to test whether the relation between country and rationalization and between country and regret might be explained by the psychological constructs of social norms and the cultural psychology construct of collectivism. I used two kinds of social norms—society norm and people norm. Society norm is a belief about global social acceptance of smoking in each country (i.e., "Thai or Malaysian society disapprove of smoking"). People norm is a belief about acceptance of those close to the respondents (i.e., "People who are important to you believe that you should not smoke"). Also, I used vertical collectivism that has been of central importance in understanding differences between countries (notably between Asian and Western countries). People who are high in vertical collectivism are interdependent and are more traditional ("You would give up an activity you really enjoy if your family did not approve").

The expectations were that the differences between Thailand and Malaysia in rationalization and regret would be, in part, explained by difference between the two countries in social norms and vertical collectivism and that those variables, in turn, would be significant predictors of rationalization and regret.

The findings of the mediational analyses confirmed that this was due to, in part, the fact that Thai smokers, compared to Malaysian smokers, were more traditional (high in vertical collectivism) and thus more strongly influenced by the family's opinion against smoking. In addition, the country differences in

98

rationalization and regret were due to, in part, the fact that Thai smokers, especially among those who were more traditional, perceived social norms against smoking more strongly than Malaysian smokers.

The country difference in regret prevalence is noteworthy, particularly when compared to four other countries in the ITC Project. Fong et al. (2004) found that roughly 90% of smokers in four countries—Canada, the United States, the United Kingdom, and Australia—experienced regret over smoking. In that study, however, there were no country differences, either in the level of regret or in the predictors of regret. In the current study, however, the regret prevalence significantly differed in Thailand and Malaysia; the regret prevalence was 92.2% for Thai smokers, similar with the four English-speaking countries assessed by Fong et al. (2004), whereas regret prevalence was 79.1% for Malaysian smokers. Even if Thailand is a more traditional country than Malaysia, given the higher level of vertical collectivism in Thailand, Thai smokers experience a very similar level of regret with smokers in Western countries. This may reflect Thailand's longstanding history of strong tobacco control policies and regulatory environment. Strong tobacco control policies are more often observed in highly developed Western countries than in developing countries (Baris et al., 2000). Thailand has been hailed as a model for tobacco control in Asian and throughout the world. These data, demonstrating that Thai smokers are low in rationalization and

high in regret, suggest that Thailand's policies may be producing positive effects..

Thailand's longstanding tobacco control efforts likely contribute to shape stronger social norms against smoking among Thai smokers. Social norms against smoking in combination with the greater degree of vertical collectivism lead smokers to experience regret as indicated by the mediational effect of interaction between vertical collectivism and social norms in the path between country and regret. In the long run Thailand's efforts can play an important role in reducing the prevalence of smoking in Thailand.

The findings of mediational analyses and predictive models of rationalization and regret consistently demonstrate that smokers' rationalization and regret are related, and the relation between the two is negative. That is, rationalization is negatively related to intentions to quit, whereas regret is positively related to intentions to quit. Also, the variables predicting rationalization and regret are in the opposite direction (this will be discussed in detail later).

In the introduction, rationalization was seen as a possible mechanism for reducing the dissonance that a smoker would experience by engaging in a health harming behaviour such as smoking. It was also stated that when rationalization was not sufficient, the smokers would experience regret. This scenario suggests that the casual relation between rationalization and regret is the direction from rationalization to regret. Moreover, previous research

(Roese & Summerville, 2005) supports this causal direction, suggesting that individuals are engaged in processes of rationalization for undesirable outcomes, and when they cannot rationalize, they then substantially move to the experience of regret.

Although the current study was not designed to test the causal direction of the relation between rationalization and regret, some findings from the current study support the direction from rationalization to regret. In Thailand, the negative relation between rationalization and regret was significant ($r = -.17$, $p < .001$), whereas this negative relation was not observed in Malaysia ($r = -.02$, *n.s.*). Due to the vigorous tobacco control policies in Thailand, Thai smokers would likely fail to rationalize their smoking, and most smokers would move on to experience regret (92.2%). In this stringent tobacco control environment, Thai smokers would rationalize *or* regret their smoking, demonstrated by negative correlation between rationalization and regret relation ($r = -.17$, $p < .001$). However, in the less stringent tobacco control environment of Malaysia, a majority of smokers still successfully engage in rationalization, and most of them do not fully move on to experience regret. In Malaysia, many smokers (nearly 50%) engage in rationalization. Some of smokers may experience rationalization *and* regret all together, demonstrated by non-significant relation between rationalization and regret may not be fully developed yet ($r = -.02$, *n.s.*). Nevertheless, only longitudinal data will speak to the accurate direction between rationalization and regret.

101

Both rationalization and regret are psychological constructs that have emotional components as well as cognitive ones. Rationalization measure employed here ("You've got to die of something, so why not enjoy yourself and smoke") consists of emotion (i.e., enjoyment) as well as cognition (Borland et al., in prep). Regret is also a combination of cognitional and emotional experiences, and it influences decision-making (Conner et al., 2006). Considering that a growing number of studies in judgment and decision-making emphasize the importance of emotion (Connolly & Zeelenberg, 2002; Fong et al, 2004; Loewenstein, 1996; Slovic, 2001), the findings here demonstrate the complexity of decision-making among smokers and point to the need to delineate the contributions of cognitions and emotions to understand the psychological experiences of smokers and how these cognitive and emotional experiences lead to important behaviour such as quitting.

5.2 Social Norms, Culture, and Their Relations to Rationalization and Regret

The findings of the mediation analyses in rationalization and regret demonstrate that country differences in rationalization and regret are, in part, explained by the influence of both social norms and culture.

In this study of Thailand and Malaysia, vertical collectivism played an important role in smokers' rationalization and regret. Vertical collectivism helps explain why the two countries differ with respect to smokers'

rationalization and regret. Thai smokers, compared to Malaysian smokers, are more traditional (higher in vertical collectivism), endorsing family opinions as more important than their personal freedom. This, in turn, appears to make it more difficult for Thai smokers to rationalize their personal behaviour (i.e., smoking). Moreover, realizing that their personal behaviour can harm their family through second-hand smoke, Thai smokers evidently have even more difficultly with rationalizing their smoking. Thus, when Thai smokers fail to rationalize, they then express regret about their smoking.

Vertical collectivism is also important as a moderator of societal norms. In contrast to my hypotheses, society norm (e.g., belief that society disapproves of smoking) did not mediate either the country and rationalization relation or the country and regret relation. However, society norm did mediate both the country and rationalization relation and the country and regret relation when vertical collectivism was also high. In other words, Thai smokers were less likely to rationalize than Malaysian smokers (and Thai smokers were more likely to regret than Malaysian smokers), and this is partially because Thai smokers, being more traditional, believe more strongly that their society disapproves of smoking. This pattern of results highlights the importance of vertical collectivism both as a main effect and as a moderator of societal norms.

People norms mediated the country and regret relation, but they did not mediate the country and rationalization relation. Also, people norm was one of

103

the strongest predictors of regret, but was only a modest predictor of rationalization. These findings suggest that the people norm connects more closely with smokers' regret than rationalization. Compared to the society norm, which is a more global societal norm, the people norm is a reflection of people who are important and close to the respondents. This is evident by the statement, used in the current study, pertaining to the people norm: "People who are important to you believe that you should not smoke." For collectivistic cultures and particularly traditional countries like Thailand, smokers' experiences of regret may go beyond a personal level experience. Instead, it may extend to the smokers' in-group members—family, friends, and colleagues.

Social norms have implications for successful tobacco control intervention efforts. The current study indicates that social norms can influence smokers' psychological experiences. Although the current study does not directly test the relation between social norms and future smoking-related behaviour, it suggests that social norms may influence intentions to quit through psychological experiences. How, then, can social norms about smoking change? There is evidence demonstrating that successful tobacco control policies can change people's social norms about smoking. The decade-long California Tobacco Control Program serves as a good example. The state-wide program, which includes a smoking ban in all indoor workplaces and many outdoor areas, influenced people's attitudes towards becoming more

positive about smoke-free environments (Gilpin et al., 2004). Moreover, changes in social norms against smoking can affect behaviour such as cigarette consumption. According to Alamar and Glantz (2006), social policies that increase the social unacceptability of smoking contribute to a reduction in cigarette consumption. Using the data from 50 states and the District of Columbia in the United Sates between 1995 through 1999, they computed a social unacceptability index based on individuals' responses to questions about locations where smoking should be allowed. They found that the index of social unacceptability of smoking correlated with the reduction in cigarette consumption across U.S. states.

In recent years there has been an enormous increase in tobacco control policies throughout the world, with the adoption in 2003 of the World Health Organization's Framework Convention on Tobacco Control (FCTC), which is the world's first public health treaty. To date, over 130 countries have ratified the FCTC and as a result, tobacco control policies are on the agenda of many countries. It will be important in the near future to understand the relations between social norms and policies in tobacco control—how policies can lead to different social norms and also how policies can only be effectively implemented when social norms are sufficiently supportive of such policies.

5.3 Predictors of Rationalization and Regret

Fong and his colleagues (2004) suggest that the regret measure used in the current study is sensitive to both the reaction of smokers' past experiences and their anticipatory regret over future consequences. The findings of the predictive model of regret in the current study confirm that, indeed, the regret measure captures smokers' worries about both present consequences (from past actions) and future consequences. The question about present consequences is "To what extent, if at all, has smoking damaged your health?" The question about future consequences is "How worried are you, if at all, that smoking will damage your health in the future?" Two of the strongest predictors of regret were related to worries about present and future consequences. That is, smokers who thought that smoking had already damaged their health were 3.65 times more likely to regret smoking than smokers who did not think at all. Also, smokers who worried that smoking would damage their health in the future were almost three times (2.97 times) more likely to regret smoking than smokers who did not worry at all.

Rationalization, however, appears more sensitive to smokers' reactions about past experiences than their worries about future consequences. In the predictive model of rationalization, worries about present consequences from past action was the second strongest variable after the country predictor, whereas worries about future consequences was a moderate predictor. Because future consequences are associated more with regret than rationalization, these

findings suggest that regret may be a more important variable for future tobacco control interventions.

The predictive models of rationalization and regret are mirror images. Thai smokers are less likely to rationalize, but more likely to regret than Malaysian smokers. Smokers who smoked their first cigarette immediately after waking up in the morning were less likely to rationalize, but more likely to regret. Smokers who tried to quit smoking multiple times and who perceived that quitting would be beneficial to their health were less likely to rationalize, but more likely to regret. Smokers of so-called "light" cigarettes were less likely to rationalize, but more likely to regret. Smokers who were not confident about their current health, believed smoking had already damaged their health, and worried about the future health consequences of their smoking were less likely to rationalize, but more likely to regret. Smokers who admitted that they spent too much money on cigarettes were less likely to rationalize, but more likely to regret. Smokers who perceived that their society and significant people disapproved of smoking were less likely to rationalize, but more likely to regret. Finally, smokers who were traditional, to the extent that they would stop their favourite activity if their family did not like it, were less likely to rationalize, but more likely to regret. These findings demonstrate again that smokers' rationalization and regret are negatively related experiences.

Gender was not a significant predictor of either rationalization or regret. Only a small proportion of participants were female smokers in the current study

107

(7.7% for Thailand and 4.9% for Malaysia), and this likely reflects the generally low prevalence of smoking by women in both countries. However, gender can potentially serve as an intriguing variable to help understand smokers' psychological experiences in Thailand and Malaysia. Considering that women in many developing countries are highly unlikely to smoke due to cultural and economic factors (Amos & Haglund, 2000), female smokers in the current study may be distinctive from most females (that is, non-smokers) in both countries, and also relative to female smokers from many Western countries. For example, female smokers in the current study may aspire to be more rebellious and independent. Although identifying characteristics of female smokers was not a primary interest in the current study, future studies that address this issue are highly desirable.

5.4 Intervention and Policy Implications

Considering that both rationalization and regret consist of emotional and cognitive components, intervention strategies should account for smokers' emotions as well as cognitive aspects. For example, anti-smoking or quitting campaigns that focus on anticipatory regret about the future consequences of smoking may be more effective than those focusing on merely rational reasons about why smokers should quit smoking. Also, to challenge the rationalization measure in the current study, which emphasizes the hedonic value of smoking

over the harms of smoking, interventions should be designed to decrease the perceived benefits of smoking (e.g., enjoyment, pleasure, relaxation) while concurrently increasing smokers' awareness about the harms of smoking (Borland et al., in prep).

The current study highlights the importance of understanding the cultural context of smoking. The strongest predictor of both rationalization and regret in the current study was country. Fong and his colleagues found little country differences in regret among four highly developed countries. This finding by Fong and colleagues may be due to the fact that the four assessed countries share more similarity to each other with respect to culture and tobacco control regulatory environments. Despite developing countries, such as Thailand and Malaysia, sharing some cultural similarities, they are more dynamic and vary in their social and regulatory environments. Taking into account the considerable country differences observed in the current study, population level interventions in particular countries should be culturally tailored.

Stringent and enforceable tobacco control policies can be a cost-effective approach in reducing tobacco consumption by changing people's attitudes and norms about smoking. If smoking is viewed as unacceptable in a given society, fewer people will likely smoke, and with fewer people smoking, smoking will become even more unacceptable. Furthermore, relatively small changes in policies may produce substantial changes in smoking behaviour,

and these changes in behaviour are not necessarily upturned when policies are reversed (Nyborg & Rege, 2003).

This study has demonstrated the benefits/value of psychological constructs in understanding and predicting intentions to quit in a cultural context. It suggests that the two kinds of norms—society and people norms—are important, and so is a cultural psychological construct of vertical collectivism, a measure of perceived societal structure.

5.5 Limitations

One limitation of the current study is that the results are from a cross-sectional design and any implied causality in the current study is through mediation analyses. Certainly, mediation analyses based on strong theoretical arguments, rather than specific types of statistical analyses, can address psychological processes (Spencer, Zanna, & Fong, 2005). Despite the fact that the current study is based on strong theoretical arguments, it should be tested using longitudinal data to test the causal directionality. Wave 2 in Thailand and Malaysia is currently being conducted and results from the future waves will be analyzed to more rigorously test the causal directionality and mediational results implied in this cross-sectional study.

A second limitation is that most items from the current study were measured as a single item due to space restrictions. Although previous research has proved

that the rationalization measure in the current study has the strongest predictive

power among various self-exempting beliefs (Borland et al., in prep; Oakes, et

al. 2004), and the regret measure in the current study is a sensitive measure to

capture both past and future reactions among smokers, multiple items for each

construct would ideally be included to provide better validity. Having said

this, however, the fact that the reliability of single items attenuates correlations

among measures, relative to indices, would suggest that the statistically

significant relations found in the present analyses may indicate robust relations

among constructs.

5.6 Conclusions

Despite these limitations, the current study points to the importance of understanding smokers' rationalization and regret. Rationalization and regret are negatively related and have an important implication for future behaviour. Smokers in Thailand and Malaysia demonstrate differing levels of rationalization and regret, which in turn contributes to the different levels of intentions to quit smoking apparent in the two countries. Different social norms against smoking, which are shaped by different regulatory environments and cultural values, contribute to the country differences in rationalization and regret. Implications for intervention and policies call for research. Future research should be conducted to test the effectiveness of the intervention strategies accounting for smokers' both emotional and cognitive aspects, based on the findings indicating that rationalization and regret influence future smoking behaviour. Also research that would better explicate what policies can enhance social norms and how social norms can be enhanced should be conducted.

6.0 REFERENCES

Abraham, C., & Sheeran, P. (2003). Acting on intentions: The role of anticipated regret. *British Journal of Social Psychology*, *42*, 495-511.

Ajzen, I. (1988). *Attitudes, personality and behavior*. Milton Keynes: Open University Press.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Process*, *50*, 179-211.

Alamar, B., & Glantz, S. A. (2006). Effect of increased social unacceptability of cigarette smoking on reduction in cigarette consumption. *American Journal of Public Health*, 96, 8-12.

Amos, A. & Haglund, M. (2000) From social taboo to torch of freedom: The marketing of cigarettes to women. *Tobacco Control*, *9*, 3–8.

Assunta, M., & Chapman, S. (2005). The tobacco industry's accounts of refining indirect tobacco advertising in Malaysia. *Tobacco Control*, *13*, ii63-ii70.

Baris, E., Brigden L. W., Prindiville, J., da Costa e Silva, V. L., Chitanondh, H. et al. (2000). Research priorities for tobacco control in developing countries: A regional approach to a global consultative process. *Tobacco Control*, *9*, 217-223.

Baron. R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and

statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.

Becker, G. S., & Murphy, K. M. (1988). A theory of rational addiction. *Journal of Political Economy*, *96*, 675-700.

Bond, M. H., Leung, K., Au, A., Tong, K., De Carrasquel, S. R., Murakami, F. et al. (2004). Culture-level dimensions of social axioms and their correlates across 41 cultures. *Journal of Cross-Cultural Psychology*. *35*, 548-570.

Borland, R., Yong, H., Balmford, J., Fong, G.T., Zanna, M.P., & Hastings G. (in prep). Do self-exempting beliefs about smoking inhibit quitting?: Findings from the International Tobacco Control (ITC) Policy Evaluation Survey.

Centers for Disease Control and Prevention. (2002). Cigarette smoking among adults –United States, 2002. *Morbidity and Mortality Weekly Report*, *51*, 642-645.

Central Intelligence Agency (2005). *The world fact book*. Retrieved May 31, 2006 from http://www.cia.gov/cia/publications/factbook/index.html

Chapman, S., Wong, W. L., & Smith, W. (1991). Self-exempting beliefs about smoking and health: Differences between smokers and ex-smokers. *American Journal of Public Health*, *83*, 215-219.

Chassin, L., Presson, C. C., Sherman, S. J., & Kim, K. (2002). Long-term psychological sequelae of smoking cessation and relapse. *Health Psychology*, *21*, 438-443.

114

Chitanondh, H., & World Health Organization (January 2003). Thailand: Country report on labeling and packaging. *Tobacco Control: WHO Tobacco Control Papers*. Paper ThaiLab2003. Retrieved may 17, 2006 from http://repositories.cdlib.org/tc/whotcp/ThaiLab2003.

Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, *55*, 591-621.

Conner, M., Sandberg, T., McMillan, B., & Higgins, A. (2006). Role of anticipated regret, intentions and intention stability in adolescent smoking initiation. *British Journal of Health Psychology*, *11*, 85-101.

Connolly, T., & Reb, J. (2005). Regret in Cancer-related decisions. *Health Psychology*, *24*, S29-S34.

Connolly, T., & Zeelenberg, M. (2002). Regret in decision making. *Current Directions in Psychological Science*. 11, 212-216.

Dawley, H.H.Jr., Fleischer, B.J., & Dawley, L T. (1985). Attitudes toward smoking and smoking rate: Implications for smoking discouragement. *International Journal of the Addictions*, *20*, 483-488.

Embree, J. F. (1950). Thailand: A loosely structured social system. *American Anthropologist*, *52*, 181-193.

Eisenberg, M. E., & Forster, J. L. (2003). Adolescent smoking behavior: Measures of social norms. *American Journal of Preventive Medicine*, *25*, 122-128.

Eiser, J. R. (1982). Addiction as attribution: Cognitive process in giving up

    smoking. In J. R. Eiser (Ed.), *Social psychology and behavioural*

    medicine (pp. 281-299). Wiley, Chichester.

Eiser, J. R., Sutton, S. R., & Wober, M (1978) "Consonant" and "dissonant"

    smokers and the self-attribution of addiction. *Addictive Behaviors*, *3*,

    99-106.

Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA:

    Stanford University Press.

Festinger, L. (1964). *Conflict, decision, and dissonance*. Stanford, CA:

    Stanford University Press.

Fishbein, M., & Ajzen, J. (1975). *Belief, attitude, intentions and behavior: An*

    introduction to theory and research. Boston: Addison-Wesley.

Fong, G. T., Hammond, D., Laux, F. L, Zanna, M. P., Cummings, K. M.,

    Borland, R., & Ross, H. (2004). The near-universal experience of

    regret among smokers in four countries: Findings from the International

    Tobacco Control Policy Evaluation Survey. *Nicotine & Tobacco*

    Research, *6*, 341-351.

Fong, G.T. Cummings, K. M., Borland, R., Hastings, G. Hyland, A., Giovino,

    G.A., et al. (2006). The conceptual framework of the International

    Tobacco Control (ITC) Policy Evaluation Project. *Tobacco Control,*

    15 (Suppl 3): iii3-iii11.

Gibbons, F. X., Eggleston, T. J., & Benthin, A. C., (1997). Cognitive reactions

    to smoking relapse: The reciprocal relation between dissonance and

self-esteem. *Journal of Personality and Social Psychology*, *72*, 184-195.

Gibbons, F. X., Helweg-Larsen, M., & Gerrard, M. (1995). Prevalence estimates and adolescent risk behavior: Cross-cultural differences in social influence. *Journal of Applied Psychology*, *80*, 107-121.

Gilovich, T., & Medvec, V. H. (1995). The experience of regret: What, when, and why. *Psychological Review*, *102*, 379-395.

Gilovich, T., Medvec, V. H., & Chen, S (1995). Commission, omission, and dissonance reduction: Coping with regret in the "Monty Hall" problem. *Personality and Social Psychology Bulletin*, *21*, 182-190.

Gilpin, E. A., Lee, L., & Pierce, J. P. (2004). Changes in population attitudes about where smoking should not be allowed: California versus the rest of the USA. *Tobacco Control*, *13*, 38-44.

Gruber, J., & Koszegi, B. (2001). Is addiction 'rational'?: Theory and evidence, *Quarterly Journal of Economics*, *116*, 1261-1303.

Gunther, A. C., Bolt, D., Borzekowski, D. L. G., Liebhart, J. L., & Dillard, J. P. (2006). Presumed influence on peer norms: How mass media indirectly affect adolescent smoking. *Journal of Communication*, *56*, 52-68.

Hammond, D., Fong, G. T., Elton, T. E., & Zanna, M. P. for the ITCPES Research Team (2004, February). Tobacco denormalization and intentions to quit among smokers from four countries: Findings from the International Tobacco Control Policy Evaluation Survey. Poster

presented at the annual meeting of *the Society for Research on Nicotine and Tobacco*, Scottsdale, Arizona.

Health Canada, Tobacco Control Programme. (2002). *Canadian Tobacco Use Monitoring Survey, February-December 2001*, Ottawa, Canada: Author.

Hofstede, G. (1980). Culture's consequences: International differences in work-related values. Beverly Hills, CA: Sage.

Hofstede, G. (1991). *Culture and organization: Software of the Mind.* London: McGraw-Hill.

Hyland, A., Li, Q., Bauer, J., Giovino, G., Steger, C., & Cunnings, K. M. (2004). Predictions of cessation in a cohort of current and former smokers followed over 13 years. *Nicotine & Tobacco Research, 6*(Suppl. 3), S363-S369.

Instituted of Public Health, Ministry of Health (1997). *Current smoking*.

Jarvis, M. J., McIntyre, D., & Bates, C (2002). Effectiveness of smoking cessation initiatives [Letter]. *British Medical Journal, 324*, 608.

Judd, C. M., & Kenny D. A. (1981). Process analysis: Estimating mediation in treatment evaluations. *Evaluation Review, 5*, 602-619.

Kahneman, D., & Tversky, A. (1982). The psychology of preference. *Scientific American, 246*, 160-173.

Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analyses in social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The*

handbook of social psychology (Vol.1, 4th ed., pp. 233-265). Boston,

    MA: McGraw-Hill.

Kish, L. (1949). A procedure for objective respondent selection within the

    household. *Journal of the American Statistical Association*, *44*, 380-387.

Kohrman, M. (2004). Should I quit?: Tobacco, fraught identity, and the risks

    of governmentality in urban China. *Urban Anthropology*, *33*, 211-245.

Kuan, M. (2003, May 20). BAT, JTI still favourites for defensive quality. *The*

    edge daily (Kuala Lumpur, Malaysia). Retrieved February 10 2006

    from

    http://www.theedgedaily.com/cms/content.jsp?id=com.tms.cms.article.

    Article_20234.

Landman J., Vandewater, E. A., & Stewart, A., & Malley, J. E. (1995). Missed

    opportunities: Psychological ramifications of counterfactual thought in

    midlife women. *Journal of Adult Development*, *2*, 87-97.

Loewenstein, G. (1996). Out of control: Visceral influences on behavior.

    Organizational Behavior and Human Decision Processes, *65*, 272-292.

Nyborg, K & Rege, M (2003). On social norms: The evolution of considerate

    smoking behavior. *Journal of Economic Behavior & Organization*, *52*,

    323-340.

Lecci, L., Okun, M. A., & Karoly, P (1994). Life regrets and current goals as

    predictors of psychological adjustment. *Journal of Personality and*

    Social Psychology, *66*, 731-741.

Lee, W. B., Fong, G. T., Zanna, M. P., & Dewhirst, T. (in prep). Promotion and Prevention Regulatory Focus: A Content Analysis of Advertising Appeals in Korea, Canada, and the United States.

Levine. R. B., & Norenzayan, A. (1999). The pace of life in 21 countries. *Journal of Cross-Cultural Psychology*, *30*, 178-205.

Mackay, J., Eriksen, M., & Shafey, O. (2006). The tobacco atlas. American Cancer Society.

Mackay, J., Jemal, A., Lee, N. C., & Parkin, D. M. (2006). The cancer atlas. American Cancer Society.

Markus, H. R., & Kitayama, S. (1991). Culture and self: Implications for cognition, emotion and motivation. *Psychological Review*, *98*, 224-253.

McMaster, C., & Lee, C. (1991). Cognitive dissonance in tobacco smokers. *Addictive Behaviors*, *16*, 349-353.

Murray-Johnson, L., Witte, K., Liu, W., Hubbell, A. P., Sampson, & Morrison (2001). Addressing cultural orientations in fear appeals: Promoting AIDS-protective behaviors among Mexican Immigrant and African American Adolescents and American and Taiwanese college students. *Journal of Health Communication*, *6*, 335-358.

Nichter, M. (2003). Smoking: What does culture have to do with it? *Addiction*, *98*(Suppl.1), 139-145.

Nichter, M., Nichter, M., Thompson, P. J., Shiffman, S., & Moscicki, A. B. (2002). Using qualitative research to inform survey development on

nicotine dependence among adolescents. *Drug and Alcohol Dependence*, *68*, S41-S56.

Oakes, W., Chapman, S., Borland, R., Balmford, J., & Trotter, L. (2004). "Bulletproof skeptics in life's jungle": Which self-exempting beliefs about smoking most predict lack of progression towards quitting? *Preventive Medicine*, *39*, 776-782.

Pervin, L., & Yatko, R. (1965). Cigarette smoking and alternative methods of reducing dissonance. *Journal of Personality and Social Psychology*, *2*, 30-36.

Pope, P., Musa, M., Singaravelu, H., Bringaze, T., & Russell, M. (2002). From colonialism to ultranationalism: History and development of career counseling in Malaysia. *The Career Development Quarterly*, *50*, 264-276.

Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, *47*, 1102-1114.

Richard, R., de Vries, N. K., & van der Pligt, J (1998). Anticipated regret and precautionary sexual behavior. *Journal of Applied Social Psychology*, *28*, 1411-1428.

Roese, N. J., & Summerville, A. (2005). What we regret most… and why. *Personality and Social Psychology Bulletin*, *31*, 1273-1285.

Segall, M. H., Lonner, W.J., & Berry, J. W. (1998). Cross-cultural psychology

as a scholarly discipline: On the flowering of culture in behavioral

research. *American Psychologist*, *53*, 1101-1110.

Seta, J. J., McElroy, T., & Seta. C. E. (2001). To do or not to do: Desirability

and consistency mediate judgments of regret. *Journal of Personality

and Social Psychology*. *80*, 861-870.

Simonson, I (1992). The influence of anticipating regret and responsibility on

purchase decisions. *Journal of Consumer Research*, *19*, 105-118.

Simpson, D. (2004). Malaysia: Racing round the hurdles. *Tobacco Control*,

13, 106-107.

Singelis, T. M., Triandis, H. C., Bhawuk D., & Gelfand, M. J. (1995).

Horizontal and vertical dimensions of individualism and collectivism:

A theoretical and measurement refinement. *Cross Cultural Research:

The Journal of Comparative Social Science, 29,* 240–275.

Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal

chain: Why experiments are often more effective than mediational

analyses in examining psychological processes. *Journal of Personality

and Social Psychology*, *89*, 845-851.

Slovic, P (2001). Cigarette smokers: Rational actors or rational fools? In P.

Slovic (Ed.). *Smoking: Risk, perception, and policy* (pp. 97-126).

Thousand Oaks, CA: Sage.

Stewart, A. J., & Vandewater, E. A., (1999). "If I had it to do over again…":

    Midlife review, midcourse corrections, and women's well-being in

    midlife. *Journal of Personality and Social Psychology*, *76*, 270-283.

Thompson, M.E., et al. (2006). International Tobacco Control South East Asia

    Survey—Technical Report. Available at: www.itcproject.org.

Triandis, H. C. (1972). *The analysis of subjective culture*. New York: Wiley.

Triandis, H. C. (1989). The self and social behavior in differing cultural

    contexts. *Psychological Review*, 96, 506-520.

Triandis, H. C. (1996). The psychological measurement of cultural syndromes,

    American Psychologist, *51*, 407-415.

Unger, J.B., Cruz, T., Shakib, S., Mock, J., Shields, A., Baezconde-Garbanati,

    L., Palmer, P., Cruz, J. D., Edsall, E., W., Gritz, E. R., Glynn, T., &

    Johnson, C. A. (2003). Exploring the cultural context of tobacco use:

    A transdisciplinary framework. *Nicotine & Tobacco Research*, *5*

    (Suppl.1), S101-S117.

U.S. Surgeon General's Advisory Committee on Smoking and Health (1964).

    Smoking and health; report. Princeton, NJ: Van Nostrand.

Vateesatokit, P. (2003). Tailoring tobacco control efforts to the Country: The

    example of Thailand. In J. de Beyer & L. W. Brigden (Eds.). *Tobacco*

    control policy: Strategies, successes, and setbacks (pp.154-178).

    Washington, DC & Ottawa, The World Bank & Research for

    International Tobacco Control (RITC).

Weinstein, N. (1982). Unrealistic optimism about susceptibility to health

  problems. *Journal of Behavioral Medicine*, *5*, 441-460.

Weinstein, N. (1987). Unrealistic optimism about susceptibility to health

  problems: Conclusions from a community-wide sample. *Journal of*

  Behavioral Medicine, *10*, 481-500.

Wheeler, L., Reis, H. T., & Bond, M. H. (1989). Collectivism-individualism

  in everyday social life: The Middle Kingdom and the melting pot.

  Journal of Personality and Social Psychology, *57*, 79-86.

Yong, H., Borland, R., Siahpush, M. (2005). Quitting-related beliefs,

  intentions, and motivations of older smokers in four countries: Findings

  from the international tobacco control policy evaluation survey.

  Addictive Behaviors, *30*, 777-788.

Zeelenberg, M. (1999). Anticipated regret, expected feedback and behavioral

  decision making*. Journal of Behavioral Decision Making*. *Special*

  Issue: Selected proceedings of the 16th Research Conference on

  Subjective Probability, Utility and Decision Making, 12, 93-106.

Zeelenberg, M., Inman, J. J., & Pieters, R.. (2001). What do we do when

  decisions go awry: Behavioral consequences of experienced regret. In

  J. Baron, G. Loomes, & E. Weber (Eds.), *Conflict and tradeoffs in*

  decision making (pp. 136-155). Cambridge, UK: Cambridge

  University Press.

Zeelenberg M., & Pieters, R. (2006). Looking backward with an eye on the

  future: Propositions toward a theory of regret regulation. In L. J. Sanna,

& E. C. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors* (pp. 210-229). New York: Oxford University Press.

Zeelenberg M., van den Bos, K., van Dijk, E., & Pieters, R. (2001). The inaction effect in the psychology of regret. *Journal of Personality and Social Psychology*, *82*, 314-327.

7.0 FOOTNOTES

1. In the current study, the term, social norms, includes both a descriptive norm (perceptions about what others do) and an injunctive norm (perceptions about what others believe one should do).

2. Kish Grid is commonly used in survey for which multiple eligible respondents in a household are listed according to their age and is conducted by the "next birthday" method. However, pretesting uncovered a problem in that a significant proportion of respondents in rural Thailand did not know their birthday.

3. I used "six months" as a cutting point to categorize people who have intentions to quit or not. People with intentions to change a problematic behaviour within six months are serious about changing their behaviour. On the other hand people with no intentions within six months may wish to change but have resistance to recognizing or modifying the problem (Prochaska, DiClemente, & Norcross, 1992).

4. All results in the current study are drawn from unweighted data. The results using complex sampling design method (including weights, clusters, and strata) are included in Appendix B. Although the results from the complex sampling method have the same patterns with the results from unweighted data, some results did not reach statistically significant levels. This is mainly due to the fact that standard errors from weighted data are larger (because the SEA was a stratified cluster design).

5. For the age variable, the category of 18-24 years was coded as the reference. I found that among age categories, the age categories of 25-39 years ($OR=2.89$, $p = .004$) and 40-54 years ($OR=2.31$, $p = .012$) showed significant interactions with country, while the age category of more than 55 years did not ($OR=1.74$, $p = .105$).

8.0 APPENDICES

8.1 Appendix A: Survey

Survey Section
Do you smoke every day or less than every day, including both factory-made and hand-rolled cigarettes?   1 Every day   2 Less than everyday
On average, how many cigarettes do you smoke each day (include both factory-made and hand-rolled cigarettes)? |____|____| **Number**
Have you smoked 100 or more cigarettes over your lifetime?   1 Yes   2 No/Can't say
Intentions to Quit
a) Are you planning to quit smoking: 1 Within the next month.   2 Within the next 6 months.   3 Sometime in the future, beyond 6 months.   4 Not planning to quit.
Rationalization
You've got to die of something, so why not enjoy yourself and smoke.
Regret
If you had to do it over again, you would not have started smoking.

You've got to die of something, so why not enjoy yourself and smoke.

1	2	3	4	5	9
Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree	Can't say

If you had to do it over again, you would not have started smoking.

1	2	3	4	5	9
Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree	Can't say