

The interplay of positive and negative emotions to quit unhealthy consumption behaviors: Insights for social marketers

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Introduction

In recent years, many governments have been encouraging citizens to alter unhealthy consumption behaviours (e.g. excessive drinking, smoking and gambling) (Thaler and Sunstein's, 2008). Traditionally, the choice of unhealthy consumption behaviours, has resulted in a number of psychological conditions (Zeelenberg, van Dijk, Manstead & van der Pligt, 2000) such as regret, guilt and fear. Essentially these negative emotional responses arise because unhealthy consumption behaviours may lead to individuals feeling bad about themselves. Researchers have also highlighted the adverse effects of unhealthy consumption behaviours on consumers and society (Ragunathan, Naylor & Hoyer, 2006) and particularly healthcare budgets (Traill, Chambers & Butler, 2011). Consequently, as a result of unhealthy consumption regret, guilt and fear appeals have been extensively employed to discourage unhealthy consumption behaviours (Antonetti, Baines, and Walker 2015; De Hoog, Stroebe, and de Wit 2007). However, it has been suggested that negative emotional appeals can also encourage maladaptive responses that could be damaging for healthy behaviours (Hastings, Stead, and Webb 2004). Based on this view some authors encourage the use of positive emotions, to build anti-consumption intentions such as quitting smoking (Peter and Honea 2012). While studies (e.g., Agrawl & Duhachek, 2011) have examined the role of negative emotions such as regret and guilt in building anti consumption intentions, there is a paucity of empirical research exploring the nature of positive emotions such as hope and practices such as physical exercise. The concept of positive emotions such as hope is important especially in situations where a consumer has feelings of regret for the perceived high cost they may incur and the harm their smoking causes to themselves (and others). This study adds to the literature by shedding light on the positive emotions experienced by consumers who intend to transit from an unhealthy consumption behaviour to a healthy behaviour (Fry 2014) through

the interplay of negative and positive emotions which may help them to develop intentions to cease unhealthy behaviours. Therefore, this study demonstrates that the interplay of regret, guilt and hope can be fundamental in the process of developing intentions to quit unhealthy behaviour such as smoking.

Studies show that smoking, despite being an unhealthy consumption behaviour, has consistently been identified by the smokers as a way of having fun, excitement, relaxation and an agent of anti-depression (Smith and Foxcroft 2009), which has made smoking common amongst people all over the world (Hackley et al. 2013; Measham and Brain 2005). Therefore, smoking is embedded in the global culture (Piacentini and Banister 2006) and countering this unhealthy behaviour is challenging for individuals because it can lead to their stigmatisation (Piacentini and Banister 2006) or exclusion (Cherrier and Gurrieri 2013). While smokers, due to this stigmatisation or exclusion, may experience stress and anxiety (Fry 2014) and shame and tension (Piacentini, Chatzidakis, and Banister 2012), the positive emotional responses, such as hope, which emerge while opposing unhealthy consumption practices, have largely been ignored. Among other positive emotions, hope is one of the key cognition-focused emotional mechanisms that involve both will (motivation) and way (action plans) components in explaining healthier consumption behaviours (Fazal-e-Hasan, et al. 2018). We argue that hope is worthy of attention because it provides insights into consumers' perceptions of, and feelings toward, goal attainment such as quitting smoking outcomes in an anti-consumption context. Unlike capitalising time and energy on many healthier products, quitting intentions of smoking may require some level of hope that consumers' goals (e.g., the quitting smoking will bring well-being and social acceptability in the life) will be attained (Raggio et al., 2014). Furthermore, a consumer who needs to quit smoking has to invest energy (e.g., information search, get consultation, mediation and physical exercises) and seek pathways (e.g. going to gym, joining anti-consumption social groups and quitting programmes, start using healthy and

natural products) to overcome the risk associated with failing to quitting-related goals (Chiu et al., 2014). Hope may allow consumers to approach quitting-related problems with a positive mindset and action plans suitable for a healthier experience (Macinnis and De Mello, 2005), which is likely to increase the possibility of developing the intentions to quit smoking.

Peter and Honea (2012) suggest that the interplay of negative and positive emotions is a key driver for sustaining a pro-social behaviour. For example, smoking as a symbolic act (Szmigin et al. 2011) helps define smokers' self- and social identities, and their behaviours (Fry 2010; Piacentini et al. 2012). In these circumstances, for individuals to alter and sustain responsible smoking practices, they need to change their social roles and social groups (Piacentini et al. 2012) and develop a new identity contrary to their role as a smoker in the society (Fry 2014). According to theories of social identity these new identities require recognition and validation from others (Tajfel and Turner 1986). Success or failure in enacting a new identity may cause strong positive or negative emotional reactions respectively (Stets and Burke 2014). Thus, leaving behind the previous identity as a smoker and gaining validation for a new identity as a consumer of healthier products and practices may cause an interplay of negative (regret and guilt) and positive (hope) emotions. Therefore, in this situation, hope emerges when individuals are able to validate their new positive self (Cast and Burke 2002) and when individuals are able to achieve a match between a new positive self with the actual performance of the self (Turner and Stets 2005). Hope facilitates this transition and creates the link between new positive self with the actual performance of the self (Stryker 1980), which may be aided by different contingency factors such as physical exercises, in building intentions to the behavioural change (quitting smoking).

Therefore, this research examines the role of consumer hope in the context of anti-consumption. Specifically, this study develops and tests a model to examine the interplay of negative and positive emotions that help consumers to develop intentions to quit smoking. Although prior research (e.g. Milyavskaya, Inzlicht, Hope & Koestner, 2015), has been undertaken to examine factors such as regret, guilt, hope and intentions to adopt a healthier life-style, this is the first study to test the inter-relationships of the constructs mentioned above using theories from anti-consumption and positive psychology. The model that we present and test in this study would be useful for researchers examining other anti-consumption contexts, while the paucity of the empirical evidence from smoking has influenced the choice of the research context (i.e. smoking). The rest of the manuscript unfolds as follows. We start by rooting our model within the literature before detailing our methodological approach. This is followed by our finding and discussion.

Place Figure 1 about here

Theoretical background and hypothesis development

Hope

Research on the psychology of hope, a future orientated a cognition-focused emotion, has long noted that hope requires individuals to employ successful agency (i.e. goal-directed energy) and pathways (plans to meet the goals) (Snyder et al., 1991, Rego et al., 2014). Snyder et al. (1991) state that the agency component of hope provides the ‘willpower’ to achieve goals whereas pathways component promotes ‘way power’ which is necessary for the production of alternative paths. For instance, a smoker who has regret and guilt for the smoking’s adverse effects on him and others may develop intentions to quit smoking. However, they must have the motivation (energy) and find ways to achieve the goals. In contrast, evidence shows that when people lack the emotion of hope, they are more likely to withdraw their efforts prematurely, or fail to attain the given task despite their belief in their capabilities (Snyder, 2000). The cognition focused emotional status of hope is deemed appropriate for this study given that we were interested in participants’ (smokers) level of hope (high or low) for successful performance on a particular task or goal (intentions to quit smoking) at an individual level rather than their more general and permanent state which has been conceptualised as trait hope (Snyder, 2000). Hope may be accompanied by an action tendency but the action (behaviour) is not a part of it (Chadwick, 2014, Lazarus, 1999). Indeed, positive emotions such as hope might be in place without taking action (Emmons et al., 2003) and the behavioural components might not necessarily represent them . Further, hope, as a positive emotion may be represented by different behaviours (Polak and McCullough, 2006, Fazal-e-Hasan, 2013). Therefore, this study considers the cognition focused emotional aspect of hope and does not address the behaviours associated with the hope.

Hope and expectation, desire, optimism and self-efficacy

Anti-consumption literature has highlighted expectation, desire, optimism and self-efficacy as coping mechanisms that may remain helpful in developing quitting intentions of a consumer from unethical products such as smoking. However, psychology has seen hope and expectation as two distinct constructs. Expectation refers to a desire which can be fulfilled without setting any definitive goal and without any related action tendency (Stajkovic, 2006). Some studies have labelled expectation as passive hope as oppose to active hope which is consistent with the view that has been promoted by Snyder and his colleagues, (Youssef and Luthans, 2007) and this current study. Therefore, hope implies that a person knows about his goal, agency and is convinced about finding a way to do it (Locke and Latham, 2002). Hope and desire share some common themes, yet are distinct from each other (Belk et al., 2003). Both are shaped by social and historical circumstances, need not subside with satiation and are linked with motivation. However, unlike desire, which potentially involves loss of control, hope is not relevant to the loss of control (Long et al., 2003). Hope is always future-oriented, which is not a necessary condition for desire (Shorey, Little, Snyder, Kluck and Robitschek, 2007). Furthermore, desire's link with the probability of occurrence is reversed. For hope, this is direct and positive. In other words, when goal congruent outcomes are certain or impossible, hope does not exist. Desire may exist in both situations (MacInnis and Chun, 2007). Lastly, desire also has 'will component' and lacks in 'way component' as is the case with expectation, optimism and efficacy. Hope on the other hand distinguish itself from a desire by being represented by way component (MacInnis and Chun, 2007). Hope researchers have emphasised the need for both pathways and agency component of hope as a focus on pathways and agency also creates a distinction between hope theory and theories related to goal achievement such as goal-setting theory (Kyllo and Landers, 1994, Weinberg, 1994, Chang et al., 2013, Rego et al., 2014) and

self-efficacy theory (Bandura, 1977). At construct level, hope is compared with self-efficacy: a belief in one's capabilities to organise and execute courses of action (Bandura, 1977) and optimism, a general expectation that good outcomes will occur (Scheier and Carver, 1985). The goal-setting theory and self-efficacy theory may have similarities in agency component but differ because of pathways and use of those pathways. Likewise, optimism is also similar to the agency component of hope (Magaletta and Oliver, 1999), but does not consider the means (or pathways) by which desired outcomes will be achieved (Snyder, 1994).

In addition to hope's distinction and advantage over other similar construct, notably, there is an increasing recognition that hope plays a significant role in improving people's well-being, with evidence that hope is effective in dealing with emotional exhaustion (Sherwin et al., 1992), engagement in healthy behaviour (Berg et al., 2011), and resolution (Merolla, 2014). Other research has demonstrated that hope has a positive relationship between hope and people's mental health (Kwon, 2000), overall satisfaction (Adams et al., 2002, Luthans and Jensen, 2002, Taylor and Brown, 1988), self-efficacy, optimism and individual performance (Feldman and Kubota, 2015), workplace behaviours (O'Donnell and Sigmon, 2015) and dispositional mindfulness and well-being (Malinowski and Lim, 2015). Furthermore, Youssef and Luthans (2007) have found that the hope supports and sustains the resilience to overcome adversity, and strengthens effectiveness in achieving hard goals.

Hypotheses development

Guilt refers to an unpleasant emotional state that arises from the perception that one has acted non-normatively, or that one has failed to act normatively (Lee and Paek, 2013). That is, individuals encounter guilt when they realise that their actions can or did cause harm to themselves, other people or society as a whole (Lee and Paek, 2014, Turner and Underhill,

2012). For example, Bamberg et al. (2007) illustrated that guilt could be aroused by the perception that one's own car use could cause environmental problems. Guilt itself will be an immediate reaction to dangers resulting from smoking, particularly to the harm inflicted on themselves or others. For example, smokers would feel guilty when they perceive that their smoking is a health hazard to non-smokers. Similarly, they would feel guilty when smoking results in hazards to themselves. Based on the above discussion, the following hypothesis is presented:

H₁: The perceived harm of smoking enhances smokers' perceptions of guilt

Higher smoking rates mean greater health impacts and increased financial pressure due to the economic costs of smoking resulting in higher level of regret. Recent research has shown that 1) the direct and hidden costs of maintaining a tobacco addiction are immense 2) giving up can save a surprising amount of money and 3) tobacco use is highly determined by social and economic pressures. On average, a family with household income of US\$24,701.48 a year, and two parents each smoking 20 a day, will spend one-quarter of their income (around US\$6,174.41) on tobacco. The overall costs also include hidden costs such as higher insurance premiums for health, home and cars. It also includes lower resale values of house and cars. Smoking also reduces the chances of getting a job and increases the likelihood of losing a job due to its negative consequences to corporate culture and individual performance. Hence a smoker perceives that the cost of smoking exceeds the benefits, it stimulates regret for his or her action. Smoking generally occurs in social and cultural contexts. Thus social norms (that is, perceptions of people close to them) shape smokers' attitudes, beliefs, and behaviour relating to smoking (Nichter, 2003). When family members or friends make smokers realise his financial loss or smokers feel the pressure of norm of reciprocity to repay the benefits they enjoy due to others input in the relationships, they experience a higher amount of regret. Therefore, smokers feel regret for costs incurred due to smoking. However this regret will be

stronger when the society and loved ones of smokers (e.g. family members and peers) disapproves their smoking by signalling them about their financial losses affecting badly to them and their families. Fong et al. (2004) showed similar levels of regret for smoking across four English speaking Western countries and suggested that regret may be a “near-universal” experience among smokers. They further suggested that when smokers become aware of the consequences of smoking, they tend to regret smoking. When they realize their smoking behaviour results in costs themselves and to others, loss of relationships, financial sacrifice, and negative psychological effects to themselves and others, they tend to regret smoking. We, therefore, hypothesises the following;

H₂: the Perceived cost of smoking enhances smokers’ regret of smoking

Smokers’ experience in regret of smoking has important implications for their psychological response to quitting smoking (Sansone et al., 2013). One such psychological response is their feeling of guilt. When they regret having commenced smoking, they feel that smoking is a non-normative and socially unacceptable behaviour (Turner and Underhill, 2012, Sansone et al., 2013). Regretful smokers will realise the negative social norms and social unacceptability surrounding smoking (Baha and Le Faou, 2010). Regretful smokers feel guilty of the consequences of their smoking to others. When smokers feel regret for having commenced smoking, they feel guilty of the health hazards to smokers themselves and to others, loss of relationships, financial sacrifice, and negative psychological effects to themselves and others (Lee and Paek, 2013). Similarly, regret for having commenced smoking gives smokers a motivation and desire to quit smoking. When smokers regret smoking, they will develop plan and goals for quitting smoking. Consequently, they will have hope in quitting smoking (Taylor, 2007, Passyn and Sujana, 2006).

The association between regret and guilt of smoking, as well the association between regret of smoking and hope in quitting smoking can be explained with the underpinnings of dissonance theory advanced by Festinger (1957) which posits that individuals are in need to maintain cognitive consistency. Dissonance is the psychological inconsistencies which lead to physiological discomfort (Burnett and Lunsford, 1994). People will then seek a course of action to relieve this unpleasant internal state (psychological discomfort) (Burnett and Lunsford, 1994). In line with the underpinnings of this theory, it can be suggested that when people regret their smoking, they tend to feel a psychological discomfort, particularly guilt which leads them to attempt quitting smoking. That is, as a result of regret in smoking, smokers will involve in developing plans and goals of quitting smoking which give them hope in quitting smoking. Based on the preceding discussion, the following hypotheses are formulated;

H3: Smokers' regret has a positive impact on their guilt of smoking

H4: Smokers' regret has a positive impact on their hope in quitting smoking

As we discussed previously, people feel guilty of their behaviour when they feel that they have violated the norms and values (Lee and Paek, 2014). Guilt is self-blame for harming another. Guilty is an unpleasant internal state. Hence people will act to seek a course of action to relieve this negative feeling (Burnett and Lunsford, 1994, Passyn and Sujana, 2006). For example, when smokers feel guilty that their smoking has caused harms to others, they seek plans to quit smoking habits which act as a coping mechanism for relieving their guilty conscious of smoking. These plans give them a hope that they can correct their non-normative behaviour. The association between the guilt of smoking and hope of quitting smoking can also be supported using the underpinnings of dissonance theory. The guilt of smoking creates psychological dissonance and discomfort. Hence smokers seek recourse for this dissonance by developing plans to quit smoking which gives them a hope of quitting smoking.

Based on the preceding discussion, the following hypotheses are formulated;

H5: Smokers' guilt has a positive impact on smokers' hope in quitting smoking

It has been suggested that there is an association between the adoption of two healthy behaviours and between the adoption of two unhealthy behaviours (Kaczynski et al., 2008). For example, those who do physical exercise, tend to adopt a healthy diet, and similarly, those who drink tend to smoke. This indicates interests and intention in one healthy behaviour generates an intention to adopt another healthy behaviour (Kaczynski et al., 2008). Accordingly, researchers have identified a positive association between exercise frequency and intention to quit smoking (Ussher et al., 2012). Smoking is unhealthy behaviour, and physical exercise is a healthy behaviour (Kaczynski et al., 2008). Smokers who do regular physical exercise tend to feel interests in caring for their health and feel guilty of smoking. Those doing physical exercise will have better cognitive functioning and will be less prone to depression, anxiety and stress which are the encouraging conditions of smoking (Prapavessis et al., 2007). They will be interested in becoming physically active. Smokers doing physical exercise will desire to quit smoking and get self-efficacy, motivation and self-confidence in quitting smoking (Kaczynski et al., 2008). Smokers who are doing regular physical activity will have stronger plans to quit smoking, and hence we propose the following hypothesis;

H6: Smokers' exercise frequency moderates the relationship between guilt and hope in quitting smoking

We employ the support of Reciprocal Action theory (Morris, 1987) to explain how regret and guilt experienced by smokers may develop smokers' intentions to quit smoking. Reciprocal Action Theory explains that individual act to benefit others as they expect others to take a beneficial action for them. More specifically, based on this theory we postulate that smoker's perceived high cost and harm associated with smoking makes them experience regret and guilt

that develop a willingness to quit smoking. These intentions to quit smoking originate from an experienced or anticipated feeling of regret and guilt that would stem from a violation of the norm of reciprocity, a norm that suggests treating others as they treat you (Li & Dant, 1997). Studies of citizenship behaviour propose that individuals, who enact citizenship behaviour, tend to have personal goals that are congruent with social goals and objectives (Goodman and Svyantek, 1999, DiPaola and Tschannen-Moran, 2014). In order to achieve their goal, individuals behave in a way that maximises the benefit of the society and themselves. In a certain situation, a smoker can imagine that quitting smoking might attract a benefit for the society and himself or herself and that the value of the benefit will outweigh its associated cost. Hope develops deviance intentions in the smoker to avail this benefit for the society and himself or herself. Although the agency component of hope may be shared with other positive emotions such as optimism, the pathways component of hope allows the smoker for the regeneration of agency even when faced with blockages and crisis (Youssef and Luthans, 2007). In this situation, the smoker proactively determines additional alternative pathways for both society and personal well-being. The resultant boost in the agency, in turn, motivates the search for further alternate pathways in light of the realities of the new situation(s). This hope process allows blockages or problems to be perceived as challenges and learning opportunities which in turn contribute to developing intentions to quit the smoking.

In the light of the above-mentioned arguments, this study proposes that when smokers have negative feelings such as regret and guilt due to adverse effects of smoking for themselves and others, this may lead to reactance (Brehm, 1966). The desire of doing something to avoid stimulation of or staying with negative feelings is behavioural intentions of quittance from smoking. This argument stands for the reason to sixth and seventh hypotheses:

H7: Regret is positively related to intentions to quit smoking

Hope and intentions to quit.

In line with Snyder (2005), we employ goal attainment theory to show how hope explains the relationship between negative feelings of regret and guilt and intentions to quit smoking. We argue that agency thinking, pathways, and goal attainment (such as quitting smoking) interact with and influence each other throughout the entire goal pursuit process. For example, choosing a goal (i.e. quitting the smoking) with an agency (motivation to live a healthy life) may inspire the generation of more pathways (going to Gym, getting involved in meditation such as yoga, and receiving counselling) and so on (Cheavens et al., 2006). In this situation, a smoker with low hope perceives any blockage as a threat large enough to place hopeful thought at risk (Snyder et al., 2002). On the other hand, a smokers with high hope are likely to see impediments as challenges rather than threats and be quick to bounce back from this initial setback (Snyder et al., 2002). It is reasoned that smokers with high hope, as compared to low/no hope, are quicker in establishing their primary, secondary and alternative goals with a sense of confidence that the pathways to achieve those goals will be effective (Snyder et al., 2002). Smokers with hope appear to be “flexible thinkers,” and are more likely to attain their goals in due course (Rego et al., 2014). Conversely, individuals with no or low-hope are not likely to exhibit this kind of flexibility and could feel discouraged with impediments that they see in their pathways. More specifically, agency and pathways of hopeful individuals with the habits of smoking are limited, and they often seem to report that generating an alternative to goals (ways to quit smoking) is quite difficult for them (Snyder et al., 2002). Therefore, smokers with guilt and regret may not intend to quit smoking due to the absence or low level of agency and pathways (known as hopelessness). On the other hand, smokers with guilt and regret may intend to quit smoking because they are capable of derive motivation and develop action plans and associated pathways to attain the goal of quitting smoking. Further, evidence suggests that hopeful individuals manage to attain their goals pertaining, 1) the reduction in the symptoms of depression and anxiety (Snyder et al., 1991), 2) more life meaning (Feldman and Snyder,

2005), life satisfaction (Cotton Bronk et al., 2009, Bailey et al., 2007) and proactive coping skills (Aspinwall, 2005, Lopes and Cunha, 2008). In the light of the arguments and evidence, we hypothesise:

H8: Hope has a positive impact on smokers' intentions to quit smoking.

Methods

Data was collected using an online survey. A professional market research firm was employed to gather the data. Respondents were initially screened to ensure that they are over the age of 18 and they currently smokers or have been previously smokers.. in total the the online survey yielded 300 usable questionnaires which was used for the main analysis of this study.

The items used in the survey instrument were taken from prior validated scales. However, minor modifications were made to the wording of the scale to suit the context of our study. The three items operationalizing the perceived harm was adopted from Baha and Le Faou (2010), Michaelidou et al., (2008) and Hammond et al., (2006). Perceived cost was measured using the three items derived from Effertz and Mann (2013) and Sansone et al., (2013). Three items obtained from (Jones et al., 2000) were used to operationalize guilt. Regret was operationalized using three items obtained from Sansone et al., (2013) and Baha and Le Faou (2010). The measures of hope comprise three items adapted from Snyder et al., (1996). Intentions to quit smoking was operationalized using four items obtained from (Lee et al., 2012) and (Song et al., 2012). All the scales for the constructs in this study were reflective.

All the measures of study constructs were adapted from the well established literature (See Table 1). All the scales for the constructs in this study were reflective. The study sample comprised 50% females and 50% males. They were divided into five age categories: 18–22 (9%), 25–34 (22%), 35–44 (27.7%), 45–54 (23%) and 55-65 (18.3%). The respondents held a

diploma certificate (47%), Bachelor or equivalent (28%), Master or PhD (11.7%) and other (12.3%). 84% of the sample were daily smokers, 13.7% were weekly smokers (a couple of cigarettes every week), and only 2.4% were monthly smokers (a couple of cigarettes every month). The vast majority (92%) of respondents tried to give up smoking at least 1 to 5 times in the past two years. 50.3% were occasional alcohol consumers, and 26.3% and 23.3% of respondents stated themselves as regular alcohol consumers or non-drinkers respectively.

When completing the survey, respondents were requested to focus on and recall their smoking experience. Scale items were both positively and negatively worded in order to minimise acquiescence bias. Further, similar items were dispersed throughout the survey, and the temporal separation between the measurement of the predictors and criterion variables was managed (Podsakoff et al. 2012). Three disciplinary academics reviewed the survey, and minor alteration was made to improve construct and content validity.

Data Analysis

The proposed model was tested using PLS-SEM using Smart PLS 3, the results show that the item loading were all .7 or above, the Average Variance Extrated for all the constructs are above the recommended value by Hair et al. (2013) of 0.50. The constructs composite reliability are all above .7 (see Table 1).

Place Table 1 about here

When assessing the inter factor correlation for discriminate validity testing, the results indicate that all the constructs are not highly correlated with one another which allow to establish discriminate validity (See Table 2).

Place Table 2 about here

When assessing the model's path loadings, the results indicate that the model paths are positive and significant (see Table 3). This provides confirmation for the theoretical framework. Testing H1 the path between perceived harm and guilt significant ($\beta = 0.37$, $P < .01$) providing confirmation to H1. Perceived cost (H2) had a significant effect on regret. ($\beta = 0.620$, $p < .01$), thus H2 is accepted. For H3 regret had a significant effect on guilt ($\beta = 0.412$, $p < .01$). In turn regret H4 did not have a significant effect of the state of hope, hence rejecting H4 with loadings of ($\beta = 0.097$, $p < .228$). Guilt H5 had a positive significant effect on hope with ($\beta = 0.42$, $p < .01$) thus H5 is supported. Moderation effect of frequency of physical exercise (H6) on the relationship between guilt and hope ($\beta = 0.111$, $p < .01$) was positive and significant. Regret was also found to be positively related to intentions to quit smoking ($\beta = 0.681$, $p < .01$). For H8, hope had a positive significant effect on intentions to quit smoking ($\beta = 0.238$, $p < .01$), thus accepting H8.

We finally assessed the model's predicted accuracy; the results indicate that all the resulting cross-validated redundancy values Q^2 are above zero, supporting the model's predictive accuracy. This result was also supported by the R^2 values, which suggest that our proposed model has satisfactory in-sample predictive power (Schlägel & Sarstedt, 2016). R^2 values range from 19.4% (Hope) to 62% (Intentions to quit smoking)

Place Table 3 about here

Finally, we assessed common methods biased using Harman's (1967) one-factor test (Podsakoff et al., 2012). The method requires that all the items to be loaded into one factor if the variance was above 50% its an indication of common methods biase. The results show that the factor accounted for (44%) of the variance, indicating non-significant common method

bias (Harman, 1967). Furthermore, we conducted Common Marker Variable technique which allows to include measures presumed to influence the cause of the bias itself. The common variance in this technique is the square of the common factor of each path before standardization. The common heuristic is to set the threshold to 50%. The result was below the threshold. Therefore, we conclude that common method bias was not an issue in this study.

Mediation Analysis

Following an approach employed by (Zhao et al., 2010), bootstrapping procedures were used to test the significance of the mediation effects. In the data sets, 5000 bootstrapping samples were generated from the original dataset (N = 300) by random sampling. According to results, 1) perceived harm significantly impacted state hope through smokers guilt, 2) perceived harm significantly impacted intention to quit smoking through smokers guilt, 3) perceived cost significantly impacted smokers' guilt through smokers regret, 4) perceived cost non significantly impacted state hope through smokers' regret, 5) perceived cost significantly impacted intention to quit smoking through smokers' regret, 6) smokers' regret non significantly impacted intention to quit smoking through state hope, 7) smokers' regret significantly increased state hope through smokers' guilt, 8) smokers guilt significantly increased intention to quit smoking through state hope, 9), and frequency of exercise (moderator) non significantly impacted intention to quit smoking through state hope. The mediating effects of mediators and its associated 95% confidence intervals are displayed in Table 4.

Place Table 4 about here

Path Invariance

As the data were collected based on the frequency of alcohol usage, model path invariance across usage (no drinking, occasionally drinking, and regularly drinking) was tested. The structural invariance was used to test for the equality of structural covariances and factor variances. The results demonstrated the difference in Chi-square was non-significant between the constrained and unconstrained models for the structural models ($\Delta\chi^2/df = (1073.746/634) - (1024.67/588) = 49.076/46$; $p = 0.351 > .05$), thus indicating that the structural model was invariant across the usage of alcohol. A constraint was applied to each path to get a new chi-square. Any chi-square (after constraining a relationship between the constructs) that is more than the calculated threshold (1028.51 for 95 percent confidence interval) constitute variance in the path-by-path analysis. Results indicate that using the 95 percent confidence usage of alcohol does moderate the path from perceived cost to smokers' guilt ($\chi^2 (590) = 1032.576 > 1028.51$) and smokers' regret to smokers' guilt ($\chi^2 (590) = 1029.450 > 1028.51$).

However, usage of alcohol does not moderate the path from perceived harm to smokers' guilt ($\chi^2 (290) = 1024.806 < 1028.51$), smokers' guilt to state hope ($\chi^2 (590) = 1026.431 < 1028.51$), state hope to intention to quit smoking ($\chi^2 (590) = 1027.628 < 1028.51$), smokers' regret to state hope ($\chi^2 (590) = 1025.378 < 1028.51$), smokers' regret to intention to quit smoking ($\chi^2 (590) = 1026.643 < 1028.51$), and frequency of exercise to state hope ($\chi^2 (590) = 1027.504 < 1028.51$) for no, occasional, and regular drinkers' samples because chi-square (after constraining a relationship between the constructs) is less than the calculated threshold.

Place Figure 2 about here

Discussion

Quitting smoking is asserted to be challenging and complex in anti-consumption context. Those who aim to quit smoking may need to go through several stages of deliberation before

they are prepared to deal with the related psychological and physical challenges. The factors pertaining to the decision and intentions to quit smoking and the struggle of continuing not to smoke may depend on one's experience, persona, social support, and personal situations (Allen et al. 2018). So far, studies on anti-consumption and particularly smoking behaviour have extensively focused on the negative emotions, attitudes, and behaviours of smokers and the detrimental effects of their smoking on themselves and society (Carlson et al., 2018). However, little research has been done on the role that positive psychological mechanisms and emotional states may play in developing smokers' intentions to quit smoking. While hope, as a positive emotional state, has been extensively studied in the context of consumer goal attainment (MacInnis, & De Mello, 2005; Ding, 2018; Fazal-e-Hasan et al., 2018), and employee-organization relationship (Rego et al., 2014; Valero, Hirschi, & Strauss, 2015), the application of hope theory in shaping smokers' anti-consumption behaviours hasn't been considered so far. Our research examines the role of hope in the context of anti-consumption such as smoking. Specifically, this research tests a theoretical model to examine the the interplay of negative and positive emotions that help smokers to develop intentions to quit smoking. While the model developed and tested in this research could potentially be useful for other anti-consumption contexts (e.g. dinking, gambling) with cautious, the limited empirical evidence from smoking behaviours has influenced the choice of the research context. Therefore, our research contributes to theory by proposing an anti-smoking diagnostic model for improving social marketing strategies through the development of effective and ethical advertising campaigns.

In support to previous research, our findings indicate that both perceived harm and perceived cost are crucial in driving smokers' negative emotions (regret and guilt). Regret and guilt have been identified as global emotions for most smokers (e.g., Fong et al., 2004). Our results expand extant research by showing that guilt stimulates positive emotions such as hope which provides smokers with the motivation and pathways to quit smoking. However, regret

has impacted hope through guilt. Perhaps the regret is an outcome of a cognitive evaluation of cost and benefit analysis and does not invoke any objective-orientation per se. A smoker may be subject to the regret due to losing money for smoking. However this negative experience may be offset due to other financial gains. On the other hand, guilt is an outcome of perceived harm to others and self (damaged health etc) that cultivates through a sense of loss which may not be recovered. By incorporating the mediating role of hope in the association between guilt and regret, and intention to quit smoking, we provide more insight into the process of quitting as a “will and way” process. Hence our results highlight that regret and guilt are not sufficient in developing smokers’ intentions to quit smoking, the influential role of hope, instead, in setting a goal (quitting smoking) with an agency (motive to live a healthy life) can stimulate the generation of positive pathways for the smokers. Our results indicate that smokers with a high level of hope are more inclined to go through the challenges and are quicker and more flexible in creating pathways to quit smoking. Therefore, hopeful smokers are likely to better manage their goals regarding quitting and would present more skills in coping with difficulties throughout the quitting process. In line with conventional paradigm pertaining to the possible negative association of smoking with physical exercise, our research also reveals the contingent role of physical exercise frequency on smokers’ guilt and hope relationship. Advancing Lee et al.’s (2009) findings, we show that the existence of high frequency of physical exercise may strengthen smokers’ level of hope. Using posthoc tests (path invariance), we further confirm that smokers’ guilt due to perceiving smoking as an expensive activity and regretful behaviour is significantly different in low, moderate and heavy drinkers. Heavy drinkers are less likely to feel guilty for their act of smoking.

The findings of this study also provide social marketers with a better understanding of the interplay of positive and negative psychological mechanisms and emotional states involved in quitting intentions of smoker and allocation of time, money and energy to deal with

other unethical consumption practices. The most important issue in formulating an anti-smoking marketing campaign is to carefully study and understand the audience (consumers of cigarettes) and how different audiences may respond to these appeals. Traditional campaigns employ fear, regret and guilt appeal to discourage individuals from smoking. Studies that have measured the effectiveness of these appeals have shown mixed results and partial success pertaining to their impact on quitting intentions of smokers (See, e.g. Kuipers et al. 2017). In order to make anti-smoking mass media campaigns effective, our study emphasises that the interplay between regret, guilt and hope must be designed in a way to be noticed, perceived as persuasive and remembered.

Congruent with Linley et al. (2004) and Snyder (2005), we would encourage social marketers and agencies to employ strategies for accentuating hope in smokers. The campaigns may strengthen smokers' hope that other members of the society such as friends, family and colleagues can and will help them in attaining their goals related to smoking cessation. Bolstering smokers' expectations simultaneously may cultivate hope for a positive change and strengthen the desire to refrain from smoking. Hope-enhancing strategies may also involve enlisting smokers in tasks that are designed to (a) conceptualize health- and environment-related goals more clearly; (b) produce numerous pathways to attainment; (c) summon the energy to maintain pursuit; and (d) reframe obstacles as challenges to be overcome (Joseph, 2015). These strategies may help smokers to experience hope to develop, set, and reach goals that have alignment with their life related goal-setting process or goal attainment, per se. Luthans and Jensen (2002) state that individuals with high-hope are more certain of their goals and value progressing toward their goals; enjoy interacting with other community members and readily adapt to new and collaborative environments. They are less anxious, especially in evaluative, stressful situations; and are more adaptive and resilient to environmental and behavioural change. This suggests that if social marketers and agencies are successful in

cultivating hope in smokers, they are likely to adapt their behaviour according to new and positive people and the environment. Social marketers and agencies should also endeavour to understand a smoker's level of hope during the designing stage of anti-smoking campaigns by assessing their life and personal motivations. Subsequently advertising appeals that specify the attainment of the same goals for smokers may encourage them to quit smoking.

Limitations and future research

As with most empirical studies, this research is not without its limitations. First, the cross-sectional nature and single level of data collection place limitations on the generalizability of this research. Longitudinal and panel research with the focus on both 'trait' and 'state' hope, and multi-segmental (non-smokers, ex-smokers and heavy smokers) data, will develop further insights into the process of generating hope in smokers. In addition, this study has not considered the temporal effects of hope on smokers' post-cessation productivity and performance and, consequently, their choices and preferences for the alternative of smoking, which could be potentially an interesting area for future research. Another limitation of this study is the exclusion of variables that might be perceived as similar to hope, such as desire, expectation, and optimism. A research design that establishes control of these variables may produce different results. The role of risk perceptions and appraisals limiting or accentuating hope could also be examined in the context of certain risky situations, where smokers find themselves in adverse health conditions. Finally, as hope is a positive emotion, future research may explore the potential link between higher levels of hope and smokers' personal and social resources, which may help them perceive their life less risky, easy, and enjoyable.

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Tables and Figures

TABLE 1

Table 1: Inter-Item Consistency (α), Composite Reliability and Average Variance Extracted

construct	Source	Items	Item loadings	R Square	CR	AVE
Perceived harm 1		My smoking is harmful to others' health.	0.763		0.840	0.637
Perceived harm 2		Others will be encouraged to smoke because of my smoking.	0.779			
Perceived harm 3		Smoking makes me ineffective.	0.850			
Perceived cost 1		I spend too much money on cigarettes.	0.735		0.769	0.524
Perceived cost 2		I can't make ends meet due to smoking.	0.746			
Perceived cost 3		It will cost me a lot to medically treat the illnesses caused by smoking.	0.700			
Guilt 1		I don't feel good about my smoking.	0.868	.518	0.882	0.714
Guilt 2		I often feel 'not right' with myself because of my smoking.	0.827			
Guilt 3		When I smoke my conscience bothers me.	0.840			
Regret 1		If I had to do it over again, I would not have started smoking.	0.784	.375	0.880	0.710
Regret 2		I no longer want to be addicted to smoking.	0.868			
Regret 3		I would like to be free from smoking.	0.873			
Hope 1		If I should find myself addicted to smoking, I could think of many ways to quit it.	0.750	.194	0.829	0.618
Hope 2		There are lots of ways around smoking-related problems that I am facing now.	0.771			
Hope 3		I can think of many ways to reach my current goals related to smoking cessation.	0.836			
Intentions to quit smoking 1		I will make an effort to quit smoking in the near future.	0.895	.620	0.938	0.791
Intentions to quit smoking 2		I am willing to quit smoking in the near future.	0.884			
Intentions to quit smoking 3		I intend to quit smoking in the near future.	0.905			
Intentions to quit smoking 4		I am planning to quit smoking in the near future.	0.873			

All factor loadings are significant at $p < .01$

TABLE 2

Table 2: Mean, Standard deviation and Inter-factor Correlation

Construct	Mean	SD	1	2	3	4	5	6
1. Perceived harm	4.95	1.13	1					
2. Perceived cost	5.18	1.09	0.752	1				
3. Guilt	5.18	1.25	0.867	0.884	1			
4. Regret	5.89	1.02	0.481	0.836	0.776	1		
5. Hope	4.95	1.04	0.686	0.368	0.436	0.178	1	
6. Intentions to quit smoking	5.81	1.00	0.496	0.736	0.743	0.873	0.434	1

(N=00), All values are significant at $P < .01$, where SD=Standard deviation, PH = Perceived harm; PC= Perceived cost; GU = Smokers' guilt; REG = Smokers' regret; SH = State hope; IQS = Intention to quit smoking

TABLE 3

Table 3: Path analysis

Hypothesis	Beta estimates	P-Value	Accepted/Rejected
Perceived harm → Guilt	0.374	0.000	Accepted
Perceived cost → Regret	0.612	0.000	Accepted
Guilt → Hope	0.420	0.000	Accepted
Hope → Intentions to quit smoking	0.238	0.000	Accepted
Regret → Hope	0.097	0.228	rejected
Regret → Intentions to quit smoking	0.681	0.000	Accepted
Regret → Guilt	0.412	0.000	Accepted
Interaction (Guilt*Exercise Frequency) → Hope	0.111	0.000	Accepted

TABLE 4**Table 4: Bootstrapping indirect effects and 95% confidence intervals (CI) for the mediational model**

Mediation	Independent variable (IV)	Dependent variable (DV)	(95% CI) Bootstrapping (Lower bound-Upper bound)
Perceived harm → Smokers' guilt → State hope	Perceived harm	State hope	(.058)-(.224)
Perceived harm → Smokers' guilt and State hope → Intention to quit smoking	Perceived harm	Intention to quit smoking	(.012)-(.062)
Perceived cost → Smokers' regret → Smokers' guilty	Perceived cost	Smokers' guilty	(.014)-(.359)
Perceived cost → Smokers' regret → State hope	Perceived cost	State hope	(.064)-(.233)
Perceived cost → Smokers' regret → Intention to quit smoking	Perceived cost	Intention to quit smoking	(.372)-(.522)
Smokers' regret → State hope → Intention to quit smoking	Smokers' regret	Intention to quit smoking	(.025)-(.102)
Smokers' regret → Smokers' guilt → State hope	Smokers' regret	State hope	(.074)-(.252)
Smokers' guilt → State hope → Intention to quit smoking	Smokers' guilt	Intention to quit smoking	(.038)-(.140)
Interaction of smokers' guilt and frequency of exercise → State hope → Intention to quit smoking	Interaction of smokers' guilt and usage	Intention to quit smoking	(-.006)-(.075)

(N=300), ** values are significant at p<.01

FIGUR 1

Figure 1: Conceptual Model

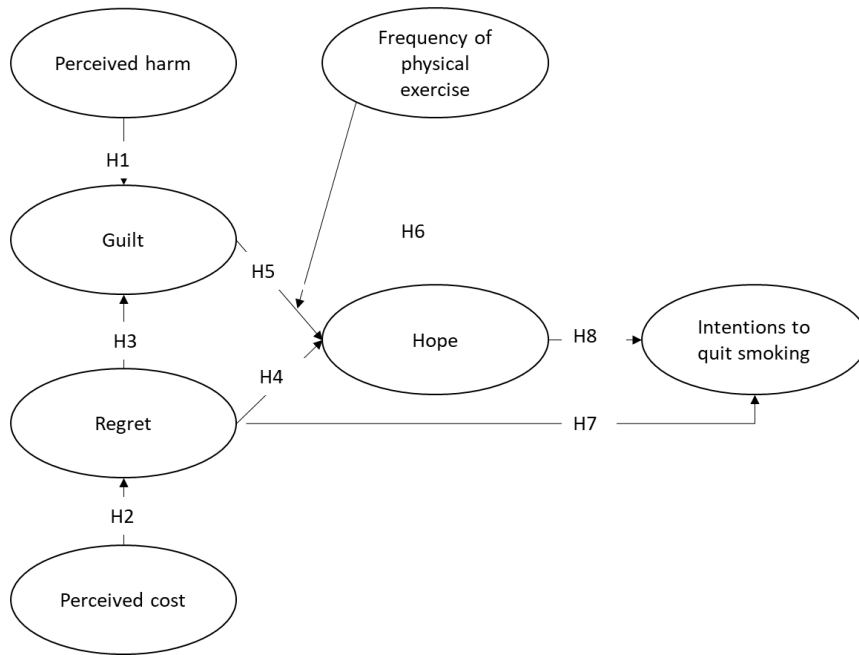


FIGURE 2

Figure 2: Slope analysis

