

## Applying regulatory fit theory and cultural values orientation to predict effectiveness of public service advertising appeals

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Applying regulatory fit theory and cultural values orientation  
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**Abstract**

While there is support for regulatory fit theory in predicting the communication effectiveness of promotion-framed and prevention-framed messages in advertisements, it is not certain if the theory can be extended to predict the effectiveness of promotion-oriented and prevention-oriented advertising appeals. This study examines the interplay of regulatory focus as well as the endorsement of collectivism and individualism among adolescents in predicting the perceived effectiveness of promotion-oriented and prevention-oriented public service advertising appeals. Data was collected from a convenience sample of 407 Chinese secondary school students aged 12 to 19 in Hong Kong. Results support the regulatory fit theory. Among the respondents, vertical collectivism was not a significant predictor for the perceived effectiveness of either promotion- or prevention-oriented appeals. Horizontal individualism was a significant predictor for the perceived effectiveness of the loss avoidance PSA appeal. Respondents' horizontal collectivism scores were positive predictors for the perceived effectiveness of both promotion and prevention-oriented appeals.

Key words: advertising strategy; communication effectiveness; regulatory fit model; Hong Kong; individualism; collectivism

# Applying regulatory fit theory and cultural value orientation to predict effectiveness of public service advertising appeals

## **1. Introduction**

The purpose of this paper is to report on the findings from a survey among adolescents on the perceived effectiveness of promotion-oriented and prevention-oriented public service advertising (PSA) appeals. The study was conducted in the context of a Chinese culture in which government public service advertising is prevalent and perceived to be highly credible (Chan 2010). The Hong Kong SAR government has a long history of employing public service advertising to socialize members of society. Adolescents are an important target audience for public service advertising as they are at an age when they are forming social values. Adolescents are often targeted in health campaigns discouraging smoking, promoting healthy eating, etc. (e.g., Chan et al. 2009; Kapetanaki et al. 2014; Zhao and Pechmann 2007). Selecting effective advertising appeals is important for public service advertisers to enhance communication effect. For example, adolescents considered public service advertisements using news and fear appeals to be more effective than those using popularity and achievement appeals in promoting healthy eating (Chan et al. 2009).

How adolescents perceive and respond to public service advertisements has received little scholarly attention in the past (Nicolini et al. 2017). Most studies emphasize message design and the effectiveness of individual publicity campaigns. For example, one experiment found that the message framing of public service advertisements could trigger different drive sources and mental processes among the audience (Yang 2018).

Given the many different types of campaign and messages, public service advertisers need to find the most promising appeals to encourage behavioral change. Regulatory fit theory and the cultural values of collectivism as well as individualism are proposed to influence the effectiveness of public service advertising appeals. According to regulatory fit

theory, adolescents with a promotion focus will find promotion-oriented appeals effective. Similarly, adolescents with a prevention focus will find prevention-oriented appeals effective. Cultural values endorsed by an individual play an important part in their response to persuasive messages as values are regarded as the governing ideas and principles for thoughts and actions (Srikandath 1991), as well as motivations (Tse et al. 1989).

This study was conducted among adolescents from a Chinese culture that emphasizes the teaching of moral character, collectivism, selflessness, and altruism (Wu 1996). This implies that adolescents will pay attention to social marketing messages that encourage the adoption of socially responsible behaviors. [A recent cross-cultural study examining respondents' cultural value orientation and how it affects the regulatory fit focus.](#) Respondents from Finland represented a horizontal individualism cultural value orientation, were found to have a positive influence on their consumer promotion-focus but no influence on their prevention focus. Respondents from Pakistan represented a vertical collectivism cultural value orientation, were found to have a positive influence on their consumer prevention-focus but no influence on their promotion focus (Rahman 2019). It inspires to [examine if Hong Kong adolescents' horizontal individualism and vertical collectivism cultural orientations will have similar impact on their regulation focuses.](#) According to our knowledge, this is the first study among adolescents to examine how regulatory focus and the endorsement of the individualism/collectivism values of an individual impact his or her susceptibility to public service advertisements. The results will inform the debate in the literature on the relationships between regulatory focus and cultural values of collectivism and individualism.

## **2. Background**

Theories of regulatory focus have the potential to explain how audiences respond to PSA messages using promotion-oriented and prevention-oriented appeals. According to the

theory, individuals practice self-regulation in pursuing promotion or prevention goals (Higgins 1997; 1998). A person is considered to have a promotion focus when his or her growth needs motivate him or her to attempt to bring his or her actual selves into alignment with his or her ideal selves with emphasis on attaining positive outcomes. A person is considered to have a prevention focus when his or her safety needs motivate him or her to attempt to bring his or her actual selves into alignment with his or her ought selves with emphasis on avoiding negative outcomes (Brockner et al. 2002). Those with a promotion goal orientation attempt to achieve better states through advancement and development. Those with a prevention goal orientation attempt to maintain their current states through taking safe and secure measures. Regulatory fit theory then postulates that motivation to adopt a specific behavior is stronger when a person's goal orientation matches his or her regulatory orientation (Higgins 2000; 2002). PSA messages often adopt promotion-oriented appeals of achieving a goal or prevention-oriented appeals of avoiding a loss. An experimental study among adolescents found that anti-smoking television advertisements are perceived to be most effective when a viewer's regulatory focus, the message's regulatory focus, and the message frame are congruent (Zhao and Pechmann 2007). A previous study among parents found that respondents consider gain- and neutral-framed messages to encourage children's physical activities to be more engaging than loss- and mixed-framed messages (Jarvis et al. 2014). It is therefore expected that perceived effectiveness of public service advertising messages will depend on a person's regulatory focus as well as the message appeals.

Culture plays an important role in motivating people (Higgins 2008). Different cultures have different core values and socialization beliefs (Greenfield et al. 2003; Schwartz 2009). Many studies attempt to explore the relationships between regulatory focus and the cultural value of individualism and collectivism based on whether a particular culture is collectivistic or individualistic (e.g. Elliot et al. 2001).

Findings support the view that collectivistic cultures are inclined to be prevention-focused while individualistic cultures are inclined to be promotion-focused (e.g. Lee et al. 2000). Kurman and Hui (2011) challenged the traditional notion of differentiating cultures on the one-dimensional prevention-promotion continuum. Empirical evidence indicates that the two regulatory foci are either uncorrelated (Higgins et al. 2001) or have weak positive correlations (Haws et al. 2010). Kurman and Hui (2011) also found that Hong Kong Chinese place high on both prevention and promotion foci.

Individualism–collectivism can be measured at the individual level. Two studies examined how individual differences in self-reported individualism–collectivism orientations relate to regulatory focus. It was found that the ratio of avoidance to approach goals has positive correlation with collectivism scores and negative correlation with individualism scores at the individual level (Elliot et al. 2001). Another survey found that collectivism scores have positive correlation with prevention focus and individualism scores have positive correlation with promotion focus (Lockwood et al. 2005).

A distinction was made between vertical and horizontal dimensions of collectivism and individualism based on perceived level of hierarchy. Horizontal collectivism refers to the strong identification with and caring for in-group members. Vertical collectivism refers to the willingness to make sacrifices for group needs. Horizontal individualism refers to the development of unique self-identity. Vertical individualism refers to the outperforming of competitors in the process of achieving certain goals. (Singelis et al. 1995).

Based on the literature, we propose a research model (Figure 1) and hypotheses.

[Insert Figure 1 about here]

According to regulatory fit theory, a person who is more promotion-focused will be motivated by achieving positive goals and be sensitive to opportunities for advancement. A person who is more prevention-focused will be motivated by avoiding threats to security and

be sensitive to the incidence of hazard. This refers to the regulatory fit condition. A previous study found that anti-smoking advertisements featuring behavioral consequences that are in line with a person's regulatory focus are more persuasive among adolescents (Zhao and Pechmann 2007).

We therefore propose the following two hypotheses that are related to the regulatory fit condition:

H1: A person with high promotion focus will perceive promotion-oriented PSA appeals to be more effective than a person with low promotion focus [in a significant way](#).

H2: A person with high prevention focus will perceive prevention-oriented PSA appeals to be more effective than a person with low prevention focus [in a significant way](#).

There is empirical evidence that vertical collectivism and horizontal individualism are related to regulatory focus (Rahman 2019). A person's vertical collectivism has positive influence on prevention-focus and negative influence on promotion-focus. A person's horizontal individualism has positive influence on promotion-focus and negative influence on prevention-focus (Rahman 2019). According to Kurman and Hui (2011), vertical collectivism puts the emphasis on conforming to group needs and complying with social obligation at the expense of self-needs. The characteristics of vertical collectivism include a strong sense of obligation, showing status or accepting high power distance as norms, group orientation, and hierarchy (Sivadas et al. 2008). Persons who endorse vertical collectivism values are more likely to exercise control over the self to bring the self in line with goals that fulfil their responsibilities and obligations. They will be motivated and therefore mobilize their efforts to adopt behaviors that result in fulfilling the social norms and expectations placed on them. They will also be less likely to adopt behaviors that challenge the status quo. Furthermore, persons who endorse vertical collectivism values are more willing to make personal sacrifices and put aside their own needs in order to fulfil their responsibilities. As a result, they are less



motivated to mobilize their efforts to adopt behaviors that are solely for personal achievement. We therefore propose the following two hypotheses.

H3a: A person with high vertical collectivism will perceive prevention-oriented appeals to be more effective than a person with low vertical collectivism [in a significant way](#).

H3b: A person with high vertical collectivism will perceive promotion-oriented appeals to be less effective than a person with low vertical collectivism [in a significant way](#).

According to Kurman and Hui (2011), horizontal individualism puts emphasis on developing self-sufficiency, autonomy, and unique goals. The characteristics of horizontal individualism include uniqueness, independence, self-reliance, and equality (Khatri et al. 2006). People who endorse horizontal individualism values are more likely to exercise control over themselves to bring the self in line with goals that fulfil personal achievements. They are less willing to put aside their own needs in order to fulfil their obligations. As a result, they are less motivated to mobilize their efforts to adopt behaviors that solely fulfil social norms and obligations. We therefore propose the following two hypotheses.

H4a: A person with high horizontal individualism will perceive promotion-oriented appeals to be more effective than a person with low horizontal individualism [in a significant way](#).

H4b: A person with high horizontal individualism will perceive prevention-oriented appeals to be less effective than a person with low horizontal individualism [in a significant way](#).

[Even though no hypotheses were proposed that relate horizontal collectivism and vertical individualism, we choose to include these two variables in Figure 1 as well as the regression model as predictors subsequently. This is because the concepts of individualism and collectivism consist of both horizontal and vertical dimensions.](#)

### **3. The Hong Kong context**

Hong Kong has a long history of public service advertising. The traditional broadcast media are required to present a fixed quota of messages fed to them by the government's Information Services Department. Television and radio still play an important role in Hong Kong in conveying such messages because they continue to reach a mass audience (Nielsen 2017). Each locally-licensed commercial television and commercial radio outlet is required to broadcast one minute of public service advertisements every hour free of charge. Some of the broadcast public service advertisements had corresponding paid display advertisements in high traffic media, such as the subway network, to boost their impact. The government is in fact Hong Kong's biggest advertiser (Chan and Huang 2015).

### **4. Methods**

#### ***Sample and procedure***

A survey was conducted in Hong Kong over a three-week period in February and March 2019. The respondents were studying in secondary school grades two to five (equivalent to grades eight to eleven in the US education system). A convenience sampling method was adopted. Three secondary schools were invited to participate. One class from each grade was selected from each school. Hard copies of the questionnaire were distributed by one of the authors and self-administered by the respondents at the morning assembly session before classes began. The students' parents were informed before the study began. Students whose parents did not object were invited to fill in the questionnaire on a voluntary basis which took seven to ten minutes to complete. Altogether 427 questionnaires were collected. Twenty were not usable because most of the answers were missing, leaving a final sample size of 407.

The sample comprised 61% males and 39% females. The respondents' ages ranged from 12 to 19 with a mean age of 15.2. According to official statistics, there were 51% males and 49% females in the age range of 10-19 in 2019. So, the sample had a higher percentage of male respondents than the population (Census and Statistics Department 2020).

Altogether, 46% of the respondents reported living in government-managed public housing and 6% in other government-supported low-cost housing. The remaining 48% lived in private housing or staff quarters. According to official statistics, about 29% of Hong Kong's population live in public housing (Census and Statistics Department 2017). As a result, respondents from lower socio-economic classes were over-represented in the sample.

Promotion regulatory focus and prevention regulatory focus were measured using the scale established by Higgins and his associates (Higgins et al. 2001). Chinese versions of both scales had been used in a previous study with Hong Kong adults yielding acceptable Cronbach alpha coefficients of 0.61 for promotion focus and 0.61 for prevention focus (Zhan 2018). Higgins et al' (2001) promotion regulatory focus scale consisted of six items such as "Compared to most people, I am typically able to get what I want out of life" and "I feel like I have made progress toward being successful in my life." To more closely align with the respondents' role as students, the statement "How often have you accomplished things that got you 'psyched' to work even harder" was changed to "Accomplishing things that got me 'psyched' has made me *study* even harder". This is the only statement in the Higgins et al' (2001) scale that addressed the fact that respondents are students whose major life goal at that stage is learning. Churchill (1979) suggested that the first step in developing a better measurement involves specifying the domain of the construct. As a result, a new item, "I shall set a learning goal and try hard to accomplish it," was added to better reflect the life experience of adolescents. The respondents were asked to rate their agreement with the seven items on a five-point scale (1=disagree very much; 5=agree very much).

Higgins et al. (2001) prevention regulatory focus scale consisted of five items such as “Growing up, I would act in ways that my parents thought were objectionable” and “I often obey rules and regulations that were established by my parents”. Four out of the five these prevention regulatory focus items were reversely phrased. Previous studies have found that reverse-worded items may cause a problem in measurement (Babin and Griffin 1998; Wong et al. 2003). Two items not reversed-worded were added based on the idea that prevention-focused people would tend to move away from danger or threats (Chen and Bei 2017). In English, the two items would be “Growing up, I would act in ways to avoid getting into trouble” and “Compared to most people, I typically opt for safe choices.” These two statements were worded similarly to the statements used in Higgins et al. (2001) promotion focus scale.

It turned out that the respondents had difficulty answering the negatively-posed items in the scale. Cronbach’s alpha for the promotion regulatory scale was 0.43. Removing the two reverse-phrased items resulted in an acceptable alpha of 0.66, so the mean of the five remaining items formed the measure of promotion regulatory focus. Similarly, Cronbach’s alpha for the Higgins et al. (2001) five-item prevention regulatory scale with four reverse-phrased statements was 0.42. All attempts to increase Cronbach’s alpha by reducing the number of items failed. On the other hand, the Cronbach’s alpha for prevention regulatory scale with the two additional items was initially 0.43, but removing the four reverse-phrased items resulted in an acceptable alpha of 0.62. So the mean of the three remaining items (i.e., one item in Higgins et al. (2001) scale plus two items added by us) formed the measure of prevention regulatory focus. Table 1 summarizes the descriptive statistics of the individual items in the final promotion and prevention regulatory focus scales used.

[Insert Table 1 about here]

Individualism and collectivism were measured using well-established scales (Triandis and Gelfand 1998). The individualism scale consisted of eight items. Four of these items measure horizontal individualism and the remaining four measure vertical individualism. The collectivism scale consisted of eight items, with four items measuring horizontal collectivism and the remaining four measures vertical collectivism. In a previous study, the wordings of the two scales had been translated and adapted to fit the life experience of adolescents (Chan et al. 2011). The respondents were asked to express their degree of agreement with statements such as “I rely on myself most of the time” (an item in the horizontal individualism scale) and “I feel good when I cooperate with others” (an item in the horizontal collectivism scale) using a five-point scale (1=disagree very much, 5=agree very much). The Cronbach’s alpha coefficients for the horizontal and vertical individualism responses from this sample were 0.69 and 0.62 respectively. The Cronbach’s alpha coefficients for horizontal and vertical collectivism were 0.83 and 0.73 respectively. The mean of the four component items formed the scales of horizontal and vertical individualism, as well as horizontal and vertical collectivism measures.

Four public service advertising appeals were selected, with two promotion-oriented appeals (i.e., getting healthy and achieving community goals) and two prevention-oriented appeals (i.e., fear and loss avoidance). Respondents were asked to rate their agreement with the sample statement “A PSA that appeals to loss avoidance is effective” on a five-point scale (1= strongly disagree to 5= strongly agree). [The study did not create any advertisement stimuli for respondents to rate. It attempts to study appeals in general terms that can be applied across different campaigns rather than specific advertisements employing different message frames for a particular public service campaign.](#)

## **5. Results**

Table 2 summarizes the descriptive statistics of the variables in the proposed model. All the descriptive statistics were higher than the mid-point of 3.0 (all  $p < 0.001$ ). Pairwise t-tests indicated that respondents scored higher on the prevention focus scale than the promotion focus scale ( $t = 7.4, p < 0.001$ ), and higher on the horizontal individualism scale than the vertical individualism scale ( $t = 7.8, p < 0.001$ ). Respondents also scored higher on horizontal collectivism than vertical collectivism ( $t = 4.4, p < 0.001$ ). Results of repeated measures of mean found that respondents' perceived effectiveness of the four selected PSA appeals were significantly different,  $F(3, 1209) = 36.8, p < 0.001$ . The t-test results showed no difference by sex in any of the model's variables.

[Insert Table 2 about here]

Table 3 summarizes the results of regression models of predicting perceived effectiveness of the four selected PSA appeals. All four regression models registered significant adjusted R square values, ranging from 0.10 to 0.18. This indicates that the set of six variables was able to account for a significant proportion of the variables for perceived effectiveness of the PSA appeals. Promotion focus was shown to be a significant predictor of perceived effectiveness of both the promotion-oriented appeals (getting healthy and achieving community goals). Respondents with higher scores for promotion focus were more likely to perceive PSA appeals for getting healthy and achieving community goals to be effective than respondents with lower scores for promotion focus. As a result, H1 was supported. Prevention focus was shown to be a significant predictor of perceived effectiveness for the PSA appeal of loss avoidance, but not the fear appeal. In other words, respondents with higher prevention-focus scores were more likely to find the PSA appeal for avoiding loss to be effective than respondents with lower prevention-focus scores. However, these respondents did not find the fear appeal to be more effective. As a result, H2 was partially supported.

[Insert Table 3 about here]

Vertical collectivism was found not to be a significant predictor of perceived effectiveness for all four PSA appeals. In other words, respondents with higher vertical collectivism scores were equally likely to perceive the four PSA appeals to be effective as respondents with lower vertical collectivism scores. As a result, H3a and H3b were both not supported. Horizontal individualism was found not to be a significant predictor of perceived effectiveness of PSA appeals for getting healthy and achieving community goals. In other words, respondents with higher horizontal individualism scores were equally likely to perceive promotion-oriented appeals to be effective as respondents with lower horizontal individualism scores. As a result, H4a was not supported.

Horizontal individualism was found to be a positive significant predictor of perceived effectiveness of PSA appeal of avoiding loss. In other words, respondents with higher horizontal individualism was more likely to perceive a prevention-oriented PSA appeal effective. This is contradictory to our hypothesis. As a result, H4b was not supported.

Interestingly, horizontal collectivism was found to be a significant predictor of all four selected PSA appeals. Respondents with higher horizontal collectivism scores were more likely to perceive all PSA appeals, no matter whether promotion-oriented or prevention-oriented, to be more effective than respondents with lower horizontal collectivism scores.

## **6. Discussion**

A proposed model using regulatory focus and endorsement of individualism and collectivism to predict perceived effectiveness of promotion-oriented and prevention-oriented PSA appeals is generally supported. The regulatory fit theory is supported in accordance with the research literature. Previous studies found regulatory fit theory to be applicable in predicting respondents' responses to different message framing for a specific communication

campaign. However, the current study provides evidence that regulatory fit theory can be extended to predict audience response to PSA advertising appeals without making reference to a particular social issue or a particular framed message. The result is insightful for public service advertisers in strategic design of message appeal for promotion-focused and prevention-focused audience segments.

Contradictory to what was hypothesized, vertical collectivism is not able to predict perceived effectiveness of prevention-oriented PSA appeals. There are two possible explanations. First, it may indicate that respondents were not motivated by conformity to group needs in their PSA responses. This echoes a previous finding that adolescents do not consider popularity appeal to be effective in promoting healthy eating (Chan et al. 2009). Second, the vertical collectivism scale adopted for this study is not relevant to the measurement of communication effects as three out of the four items in the vertical collectivism scale measure respondents' family obligations when parents are aged. These statements have little to do with social obligations beyond the family context and also mean little to the respondents, who are not yet at the life stage when they need to make decisions about living with or taking care of the family. Agreeing with these statements therefore did not correlate with perceived effectiveness of PSA appeals. Further studies need to develop a vertical collectivism scale that is relevant to the social experience of youth.

Also contradictory to what was hypothesized, horizontal individualism scores did not significantly predict perceived effectiveness of PSA appeals for getting healthy or achieving community goals. This may be because the respondents did not perceive that the PSA messages about getting healthy or achieving community goals are related to their individualistic personal goals. Horizontal individualism was found, however, to be a significant positive predictor of perceived effectiveness of the PSA appeal for loss avoidance.



This suggests that loss avoidance is perceived to be related to respondents' individualistic personal goals.

The study found that horizontal collectivism is a positive predictor of both promotion-oriented PSA appeals and prevention-oriented PSA appeals. In fact, the standardized beta value of horizontal collectivism is even higher than that of the promotion and the prevention focus. Among all the predictors, horizontal collectivism is the only variable that is significant in predicting all four PSA appeals. This suggests that an individual's identification with and caring for in-group members is the driving force behind the audience's reception of PSA influences. It has the implication that PSA messages should aim at creating a sense of moral obligation to care for others and to encourage the audience to see others as people in their in-group. Further studies can use experimental design to verify this suggestion.

For this sample of adolescents of a relatively narrow age range, promotion and prevention focus does not show any significant correlation with age or sex. Further study is needed to identify to what extent an individual's regulatory focus depends on other factors such as socio-economic status.

## **7. Conclusion**

To conclude, this study was conducted to test a model using prevention and promotion regulatory focuses as well as endorsement of collectivism and individualism in predicting perceived effectiveness of promotion-oriented and prevention-oriented public service advertising appeals among adolescents. Results show that regulatory fit theory is applicable without making reference to specific message-framing strategies. It therefore extends the application of regulatory fit theory from predicting the effect of a message in a loss or gain frame to predicting the effect of an advertising appeal. Vertical collectivism is not a significant predictor for either promotion or prevention appeals. Horizontal individualism is a significant predictor for the loss avoidance PSA appeal. Furthermore,

respondents' horizontal collectivism scores are positive predictors of both promotion- and prevention-oriented appeals. Findings suggest that respondents are motivated by identification with and care of in-group members, rather than by fulfilling obligations. Future social marketing to the youth should therefore emphasize how their behavioral choices can enhance the wellbeing of other members of society and not just their peers. The study also reveals challenges in applying psychological scales developed from adult samples to the adolescent population. Some items in the scales adopted in this study were only remotely related to youth experience and therefore need revision. This opens up the need for psychologists to construct scales that are relevant to the development goals and life experience of the younger generation.

## **8. Limitations and further studies**

The data was collected from a non-probability sample of secondary school students in a classroom setting. It may not be readily generalizable. Other appeals such as news or celebrity appeals were not tested in this study. The current study was conducted in a unique context in which government-produced messages are prevalent and patronize vast social domains. Future studies can extend the work to messages from non-government sources and to more representative respondents.

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Figure 1. Proposed research model

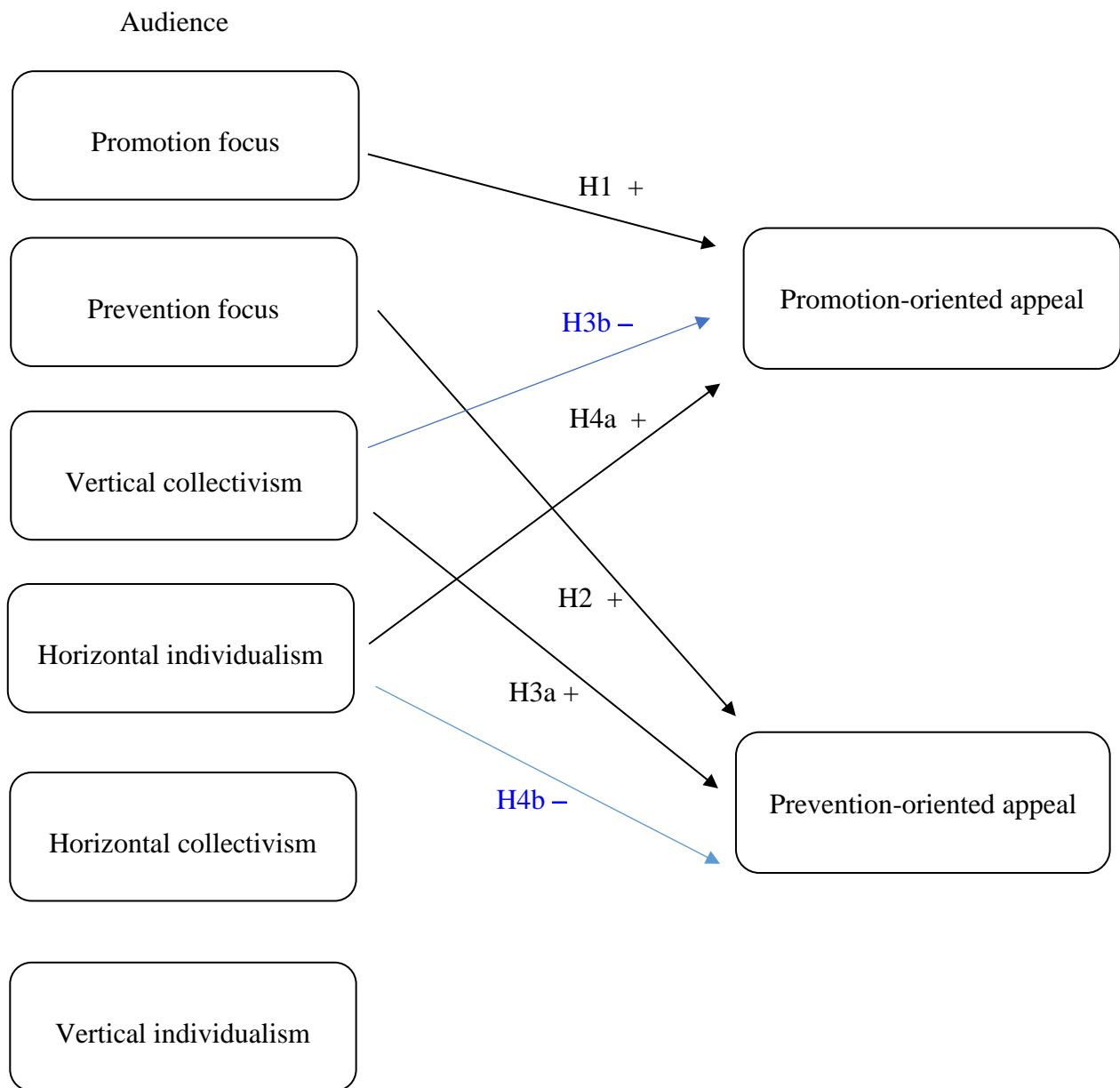


Table 1. Descriptive statistics of the items in the final promotion and prevention regulatory focus scales

Scale/Item	Source of scale	Mean	Standard deviation
<b>Promotion regulatory focus (<math>\alpha=0.66</math>)</b>			
Compared to most people, I am typically able to get what I want out of life	Higgins et al. 2001	3.12	0.74
Accomplishing things that got me “psyched” has made me study even harder	Higgins et al. 2001	3.52	0.76
I often try to do well at different things	Higgins et al. 2001	3.63	0.70
I feel like I have made progress toward being successful in my life	Higgins et al. 2001	3.18	0.77
I shall set a learning goal and try hard to accomplish it	Additional item, author	3.36	0.80
<b>Prevention regulatory focus (<math>\alpha=0.62</math>)</b>			
I often obey rules and regulation that were established by my parents	Higgins et al. 2001	3.46	0.71
Growing up, I would act in ways to avoid getting into trouble	Additional item, author	3.65	0.79
Compared to most people, I typically opt for safe choices	Additional item, author	3.59	0.82

Table 2. Descriptive statistics (N=407)

	Mean	Standard deviation
Promotion regulatory focus	3.36	0.49
Prevention regulatory focus	3.57	0.58
Horizontal individualism	3.53	0.57
Vertical individualism	3.29	0.62
Horizontal collectivism	3.54	0.68
Vertical collectivism	3.40	0.64
Get healthy appeal	3.42	0.72
Community goals appeal	3.27	0.71
Fear appeal	3.10	0.66
Loss avoidance appeal	3.46	0.74



Table 3. Summary of regression analysis in predicting perceived effectiveness of PSA appeals

Variable	Promotion-oriented appeal		Prevention-oriented appeal	
	Get healthy	Community goal	Fear	Loss avoidance
Promotion focus	0.18***	0.14*	0.10	-0.03
Prevention focus	0.12**	0.05	0.10	0.30***
Horizontal individualism	-0.03	-0.05	-0.06	0.11*
Vertical individualism	-0.08	0.08	0.10	0.05
Horizontal collectivism	0.22***	0.19***	0.19***	0.17*
Vertical collectivism	0.09	0.03	-0.00	0.02
Adjusted R <sup>2</sup>	0.18	0.10	0.10	0.18
F	16.1***	8.6***	8.2***	15.6***

\*\*\* p< 0.001;

\*\* p< 0.01;

\* p< 0.05