Preventive Health Behaviors

- The Psycho-marketing Approach

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Received: February 16, 2012 Accepted: March 1, 2012 Published: June 1, 2012

doi:10.5539/ijps.v4n2p56 URL: http://dx.doi.org/10.5539/ijps.v4n2p56

Abstract

This paper focuses on consumers' adoption of preventive health behaviors (PHB). It aims to explain PHB among Israeli consumers by examining their motives, needs, and actions. A model of PHB based on two approaches used previously (Moorman & Matulich, 1993; Jayanty & Burns, 1998) is developed and tested with data from Israeli consumers. Results suggest that PHB is influenced by health motivation and health knowledge and, to a lesser extent, by self- and response-efficacy. Self- and response-efficacy are impacted by self-motivation. The findings, in combination, can help policy-makers and marketing managers in designing effective marketing campaigns to encourage PHB.

Keywords: preventive health, health motivations/knowledge, consumers

1. Introduction

Healthcare is a large and growing service industry. The market for preventive health products and services has been increasing rapidly in industries such as food and gym clubs. Such growth has been attributed to consumers' preference for better health and healthcare (Pham, 1998). To gain a competitive edge, providers need to understand what consumers perceive as better health and healthcare and what factors affect their satisfaction with it. Marketing for such products/services are often quite different from that of other goods and a better understanding of the differences can help firms manage and market relevant services (Braunsberger & Gates, 2002). For example, due to new FDA regulations, direct-to-consumers (DTC) advertising of prescription drugs, which affects purchase behavior (Pinto *et al*. 1998) has grown tremendously. Hence, DTC advertising is now a standard component of marketing plans for most pharmaceutical firms (Paul, *et al*., 2002).

Research on preventive health behavior (PHB) is multi-disciplinary (e.g., social marketing, consumer behavior, medicine, and psychology). However, previous marketing PHB research has left two gaps, which the present study seeks to fill. First, previous research has used two partially overlapping PHB models. One model, developed and tested by Moorman and Matulich (1993), related health ability and motivation to behaviors such as health information and acquisition/maintenance behavior. Another model, developed by Jayanty and Burns (1998), argued that PHB is influenced by consumers' perceived value from engaging in PHB and by their beliefs that specific actions will mitigate health threats. These two approaches to modeling PHB have been very influential. According to Google Scholar, the earlier one has been cited 161 times (almost nine time a year on average) and the later one 79 time (about six times per year). We combine the two models and test the emerging synthesized model. Second, both models were tested in the US, which differs greatly from Israel. Accordingly, our study conducted in Israel, validates these models in a new country and strengthens the argument for the two model's cross-cultural generalizability. In addition, Lefebvre (2011) noted that the field of social marketing largely ignored by textbooks and therefore our model sheds light on this under-research area.

2. Literature Review and Research Hypotheses

PHB refers to the degree to which consumers perform health enhancing behaviors, such as regular health checkups, improved diets, minimized stress, and moderated alcohol consumption. People act to control health-related behaviors if they believe the behaviors can have serious consequences, if they regard themselves as susceptible to these behaviors, and if they perceive no inconveniences or unpleasantness barriers for action (Becker, 1974; Janz & Becker, 1984; Rosenstock, 1991). Health motivation, knowledge, and consciousness

should affect PHB, with their impacts mediated by self-efficacy (Jayanti & Burns, 1998). The model guiding our research is developed below.

Health motivation is defined as a consumer's goal-directed arousal to engage in PHB and focuses on consumers' willingness to act healthily (Moorman & Matulich, 1993). When consumers are health motivated, they implement balanced life styles, eat balanced diets, and get regular checkups. Moorman and Matulich (1993) documented that health motivation affects PHB positively. Wymer (2011) noted that motivation is one of the individual barriers. As a result, the goal is to develop a message that the benefits of healthy behavior exceed the benefits of the unhealthy behavior and the costs of unhealthy behavior are higher than those of the healthy behavior.

Similarly, Adams and Mowen (2005) studied personality characteristics of healthy eaters and exercisers. They found that both behaviors were associated with health motivation in their study. Likewise, Tucker, *et al*. (2009) found that health motivation was a significant predictor of eating a healthy diet and exercising consistently. Their study takes on additional importance as it included samples of African-American mothers *and* non-Hispanic white mothers. Thus, since health eating and exercising are two manifestations of PHB, the first hypothesis is:

H_1: The higher the health motivation levels the greater the PHB.

Self-Efficacy is a person's confidence that he or she can successfully execute some desired behavior (Bandura, 1977; 1997). In our context, self-efficacy refers to people's belief that they can engage in behaviors that can mitigate health threats (Jayanty & Burns, 1998). Self-efficacy is an important determinant of many behaviors. Celsi, *et al*. (1993) see it as a motive for "sticking with it" in the context of risky sports. Since self-expectations increase with expertise, the importance of efficacy is maintained over time (Bandura, 1965; Celsi, *et al*., 1993). Similarly, consumers are motivated to stay involved with a sport because they get better at it and the need for efficacy increases the frequency of practice (Shoham, *et al*., 2000). Healthy lifestyles parallel risky sports; in both, a need for efficacy is manifested in a drive to develop desirable skills.

Self-efficacy represents an interface between individuals and their behavior. Social learning theory defines self-efficacy as a sense of confidence regarding the performance of tasks, especially in the context of learning (Lorsbach & Jinks, 1999). Self-efficacy is a personal appraisal of judgments brought to bear on new learning situations (e.g., maintaining balanced diets and lifestyles, using health professionals, and conducting regular checkups, in our case). Egbert and Parrott (2001) found that self-efficacy is a critical component of successful behavior change in the context of performing regular detection tests for breast and cervical cancer.

While self-efficacy is used as an outcome of health motivation and as an antecedent of PHB, it has been used in parallel roles in previous research as well. For example, Bui, *et al*. (2011) argued and documented that individual self-efficacy impacts exercise behavior (one form of PHB), which, in turn, can be useful in combating the phenomenon they termed "obesity epidemic" (p. 181). Even more far-reaching was the study by Tucker *et al*. (2005), which documented that self-efficacy, impacted a variety of PHBs, including eating a healthy diet, exercising consistently, managing stress actively, and engaging in health responsibility behaviors. In sum, if consumers believe that they can learn PHB, they will engage in it. Since efficacy stems from health motivation, as motivation grows, it influences the continuation of the process, directed to PHB. Therefore:

H_2: There is a positive relationship between health motivation and self-efficacy.

H_3: There is a positive relationship between self-efficacy and PHB.

Response efficacy refers to people's perceptions that some PHB will successfully mitigate a health threat (Jayanty & Burns, 1998). Moorman and Matulich (1993) use the term health locus of control to refer to consumers' enduring beliefs that health outcomes are controllable. Internals believe that outcomes are contingent on their personal behavior and externals believe that outcome are controlled by others, luck, or fate.

Response efficacy differs from self-efficacy. Whereas the former deals with people's beliefs that a given action can lead to a desirable goal, the latter deals with people's beliefs in their ability do to something by themselves, regardless of the consequences. Additionally, if consumers believe that PHB can work, they will practice it more frequently. Braunsberger and Gates (2002) found that healthier patients and those who perceived the healthcare system's performance to be high are more satisfied with their care and health plans. Similarly, Petrovici and Ritson (2006) reported that health motivation was associated positively with response efficacy (termed "beliefs that diet can prevent decease" in their study: 222). In sum:

H_4: There is a positive relationship between health motivation and response efficacy.

H_5: There is a positive relationship between response efficacy and PHB.

Health knowledge refers to individuals' PHB information (Jayanty & Burns, 1998). Moorman`s study on the Nutrition and Labeling Education Act (1996) documented the value of nutrition labels in helping consumers verify health claims. Increased knowledge from labels affected people's perceived diet effectiveness. As people become more knowledgeable about diet-disease relationships, they are more likely to believe that they can prevent future disease through diet and to search for and use nutrition information contained in labels (Szykman, *et al*., 1997). Similarly, consumers hold positive attitudes about DTC advertising (Pinto *et al*., 1998) and consider it as valuable in enhancing their involvement in their healthcare (Paul, *et al*., 2002). Bhaskaran and Hardley (2002) found that the most common sources of health and nutrition knowledge are medical practitioners and media, such as newspapers (Hackman & Moe, 1999) and television (Byrd-Bredbenner & Grasso, 1999, 2000). Manufacturer claims are another source of information that influences purchase decisions (Ippolito & Mathios, 1990,; 1991). Kozup, *et al*. (2003) showed that absent nutrition information, health claims can favorably influence product attitudes and purchase intentions. Consumers used such claims to assess the risk of heart disease and strokes. Additionally, consumers' knowledge of health issues was found to predict their selection of restaurants on the basis of the kind of food they served (Choi & Zhao, 2010). In sum, knowledge should reduce consumer uncertainty. To become knowledgeable, consumers attain information from multiple sources. Additionally, health knowledge affects PHB positively (Egbert & Parrott, 2001) and, coupled with health motivation; it increases healthy behavioral response (Moorman & Matulich, 1993). Consequently:

H_6: There is positive relationship between health motivation and health knowledge.

Age affects consumers' mental and physical ability to engage in PHB. Knowledge is an outcome of personal experiences (Bhaskaran & Hardley, 2002), increasing the probability that older consumers will know more and behave accordingly. Moorman and Matulich (1993) suggest that PHB increases with age and document that older people are more aware of diet-health relationships and more likely to change their dietary habits and purchase behavior. Additionally, old patients are more satisfied with the healthcare they receive and with their health plan (Braunsberger & Gates, 2002), have more fat and sodium knowledge, and eat healthier food (Fischer *et al*., 1991) compared to young ones. However, they are less able to effectively master a PHB because of the effects of aging (Abler & Fretz, 1988) and age and nutrition information processing ability are related negatively (Mathios, 1996). In sum, some scholars found no differences between young and old consumers (Klopp & McDonald, 1981; Lin, 1994) and some reported a negative relationship between age and knowledge (Cole & Balasubaremanian, 1993; Cole & Gaeth, 1990; Moorman, 1990). Given these conflicting findings:

H_7: There is a relationship between age and PHB.

3. Method

3.1 Sample and Procedure

Data were gathered through questionnaires. Questionnaires were distributed to a convenience sample of 148 Israelis, of whom 135 provided complete questionnaires. Respondents were recruited in community and shopping centers (in middle-class neighborhoods in Haifa), an old-age home (to balance the sample with older people), and a university (to balance the sample with younger people). Data were collected by student teams thoroughly instructed in marketing research. While the gender and age distribution of respondents is close to national means, the sample included better educated and higher income individuals than the mean levels of Israelis on these characteristics, an issue revisited in the "Limitations" section of this paper.

The questionnaire included established and validated scales. Since the original scales were in English, one bilingual individual translated them into Hebrew and a second bilingual individual, blind to the originals, translated them back. Then, one of the authors, in consultation with the translators, assessed the accuracy of the translation. Inconsistencies were resolved by the three individuals. We summarize the scales' sources in Table 1 and provide scale reliability coefficients in Table 2.

Table 1. Scales' sources

Sources	Items	Scales
Moorman and Matulich (1993); Jayanti and Burns (1998)	16	Health Behavior
Moorman and Matulich (1993)	9	Health Knowledge
Moorman and Matulich (1993)	8	Health Motivation
Lau and Ware (1981)	26	Response Efficacy
Moorman and Matulich (1993)	12	Self Efficacy

Table 2. Scales' reliabilities

Scale	Component (Items)	Reliability
Health Behavior	Balanced diet (7)	α = 0.85
	Balanced lifestyle (3)	α = 0.70
	Regular checkups (2)	α = 0.60
Health Knowledge	Non-personal knowledge source (4)	α = 0.75
	Non-commercial knowledge source (5)	α = 0.78
Health Motivation	Passive health motivation (5)	α = 0.75
	Active health motivation (3)	α = 0.85
Response Efficacy	Doctors professional skills can help (3) [a]	α = 0.67
	Doctors professional skills are limited (3)	α = 0.61
Self Efficacy	Viewing health as a matter of luck (3) [a]	α = 0.75
	Viewing health as not luck-based (3)	α = 0.63
	Fatalistic point of view (3)	α = 0.69
	Balanced diet (4)	α = 0.52
	Routine checkups (2)	α = 0.81

Scale split to sub-scales; First two sub-scales measured response efficacy and the others self-efficacy.

3.2 Findings

All hypotheses were tested in multi-variate regression models. Table 3 presents the results of these regression models.

Table 3. Regression results – standardized coefficients

Scale	Sub-Scale	R^2 (First; Second Block)	Health Motivation		Response Efficacy		Self-Efficacy					Age
			Active	Passive	Doctor Professional Skills Can Help	Doctor Professional Are Limits	Checkups	Balanced Diet	No Luck	Luck	Fatalist	
Privative	Lifestyle	**.34**	**.48**	**.16**	.02	**.14**	.08	**-.17**	.04	.02	**.24**	**-.18**
Health		**.45***	**.36***	.15*								-.11*
Behavior	Balanced	**.45**	**.56**	.12	.08	.06	-.03	**-.23**	.08	-.06	-.004	**-.24**
	Diet	**.51***	**.53***	**.19***								-.22*
	Checkup	**.17**	**.35**	**.21**	.10	.09	**.38**	.09	.00	-.01	**-.15**	-.02
		.34*	**.14***	.15*								-.09*
Self-Efficacy	Checkup	**.20**	**.44**	-.04								
	Balanced Diet	**.13**	.00	**.37**								
	No Luck	**.07**	**.24**	.10								
	Luck	**.19**	**.19**	**.38**								
	Fatalism	.04	.14	**.14**								
Response Efficacy	Doctor Professional Skills Can Help	**.14**	**.27**	**.23**								
	Doctor Prof. Are Limits	**.12**	**.22**	**.25**								
Health Knowledge	Mass Media	**.28**	**.48**	**.20**								
	No Commercial	**.27**	**.44**	**.27**								

*Adding self-efficacy and response efficacy as a second block (we entered health motivation and age into the regression models first)

β (P<0.05), Significant.

H_1 was tested by regression models with a three-component PHB (balanced life style, balanced diet, and checkups) as a dependent variable. To account for the potential two-component impact of health motivation (passive and active) on PHB (through self- and response-efficacy), we entered health motivation and age into the model first and added self- and response-efficacy as a second block. The three models were significant ($p < 0.05$) and explained 34% of the variance in balanced lifestyles, 45% of the variance in balanced diets, and 17% of the variance in checkups. In support of H_1, the impacts of active and passive health motivation were positive and significant ($p < 0.05$) for balanced diets ($\beta = 0.56$; $\beta = 0.12$, respectively); lifestyles ($\beta_{active} = 0.48$; $\beta_{passive} = 0.16$); and checkups ($\beta_{active} = .35$; $\beta_{passive} = 0.21$). Adding self- and response-efficacy as a second block increased R^2 significantly whereas the β's remained substantively similar. The models explained 45% of the variance in a balanced life style, 51% of the variance in a balanced diet, and 34% of the variance in checkups (we report the impacts of the second block below).

Next, five regression models were run to assess the impact of internal and external health motivations on a five-component self-efficacy (perceived self-efficacy in using routine checkups, eating balanced diets, viewing health as a matter of luck, holding fatalistic views, and viewing health as unrelated to luck - H_2). Four of the five models were significant ($p < 0.05$) and explained 20% of the variance in checkups, 13% of the variance in balanced diets, 7% of the variance in health as a matter of luck, 4% of the variance in fatalistic point of view ($p < 0.10$), and 19% of the variance in viewing health as unrelated to luck. In partial support of H_2, there is a positive relationship between health motivation and some self-efficacy components. Specifically, active health motivation

affected viewing health as a matter of luck ($\beta = 0.19$), viewing health as unrelated to luck ($\beta = 0.24$), and routine checkups at the clinic ($\beta = 0.44$). Passive health motivation affected viewing health as a matter of luck ($\beta = 0.38$), a fatalistic point of view ($\beta = 0.14$), and routine checkups at the clinic ($\beta = 0.37$).

H_3 posited a positive relationship between self-efficacy and PHB. The regression models used to test H_1 also served to test H_3, except that we report the results when adding self- and response-efficacy as a second block. Several components of self-efficacy affected balanced lifestyles, balanced diets, and conducting frequent checkups as PHB components. The balanced diet component (β = 0-.17) and the fatalistic point of view component of self-efficacy ($\beta = 0.24$) were significant predictors of balanced lifestyles. In the regression for balanced diet, only the ability to maintain balanced diet component of self-efficacy was significant ($\beta = 0.23$). Finally, the regression for the checkups showed that routine checkups at the clinic ($\beta = 0.38$) and fatalistic viewpoint ($\beta = -0.15$) were significant self-efficacy predictors of PHB. In short, H_3 was partially supported.

Health motivation should affect response efficacy (doctors' professionalism as helpful and doctors' professionalism as limited; H_4). Both regression models were significant ($p < 0.05$) and explained 14% of the variance in viewing doctors' professionalism as helpful and 12% of the variance for viewing doctors' professionalism as limited. Active ($\beta = 0.27$) and passive health motivation ($\beta = 0.23$) affected the "viewing doctors as helpful" component of response efficacy. Similarly, the impacts for "viewing doctors as limited" were positive for active ($\beta = 0.22$) and passive ($\beta = 0.25$) health motivation. Individuals with higher response efficacy exhibited higher PHB only for balanced lifestyles, in partial support of H_5. Perhaps perceiving that doctors cannot always come to one's rescue caused individuals to refrain from assigning responsibility to external causes and motivated them to show an internal locus of control and take responsibility into their own hands. Possibly the most accessible act (and therefore the most common one) is to balance one's lifestyle. In short, H_5 received only weak support.

Individuals with higher health motivation should seek and use health knowledge since it can reduce uncertainty (H_6). Supporting H_6, motivation enhanced information gathering. Both regression models were significant ($p < 0.05$) and explained 28% and 27% of the variance in using non-personal and non-commercial knowledge sources, respectively. Active ($\beta = 0.48$) and passive ($\beta = 0.20$) health motivations were significant for non-personal and for non-commercial sources of knowledge ($\beta_{active} = 0.44$; $\beta_{passive} = 0.27$).

Finally, H_7 posited a relationship between age and PHB. We used the same three regression models as in H_1. The results showed a negative impact on two outcomes, namely balanced lifestyles ($\beta = -0.18$) and balanced diets (β = 0-.24). In support of H_7, as people age, it becomes more difficult to balance lifestyles and diets.

4. Discussion, Implementation and Future Research

Two limitations suggest that the findings should be viewed with caution. First, the findings are based on a convenience sample. While fairly balanced on gender and paralleling the adult population age distribution, the sample included better educated and higher-income individuals than the Israeli population. Future research should replicate the findings with representative samples.

Second, our study was conducted in Israel. Replicating the study in other nations would serve to enhance the generalizability of the findings presented here. For example, Israel captures the middle ground on the cultural value of individualism (versus collectivism; Hofstede, 2001). Hofstede reported that people from high-individualism cultures tend to rely more on media than on their social networks for information, compared to individuals from high-collectivism ones. Thus, the US, Australia, and the UK would constitute important nations in which to test our model, as the three were the most individualistic in Hofstede's study. Similarly, low-individualism countries tend to spend less on healthcare than low-collectivism ones (Hofstede, 2001). This might force consumers in the former to rely more on personal PHB than consumers in the latter. Hence, future research should test our model in low-individualism nations, such as Guatemala or Ecuador.

These limitations not withstanding, our findings have theoretical and practical implications. The model synthesizes and extends previous models (Jayanti & Burns, 1998; Moorman & Matulich, 1993). The findings confirm that health motivation and knowledge stimulate PHB. They also demonstrate that health motivation directly influences self-efficacy and response efficacy, which are partial mediators of its impact on PHB. These findings, combined with previous research, are useful for firms marketing PHB products and services. In addition, these findings provide a road map for this purpose as they document the impact of antecedents to customer loyalty, resulting in enhanced relationships with consumers (Cooley, 2002).

These findings provide rich segmentation-relevant consumer profiles. Given the impact of health motivation on PHB, segmentation based on consumers' active or passive motivation can be valuable. People driven by active

motivation for health knowledge are highly health-aware, do regular checkups, and consult with professionals. Internally motivated, they strive to maintain balanced diets and lifestyles and, through self-efficacy, are action-focused. Such behaviors can be explained by goal-setting theory (Locke & Lathem, 2002). Conscious goals affect action by serving directive and energizing functions and affecting persistence and action. The goal-performance relationship is strongest when people are committed to an important goal, have high self-efficacy, and get positive feedback (Bandura 1989; 1997; Lathem, 2001; Lathem & Seijts, 1999; Mento, *et al*., 1992).

In contrast, passive consumers are skeptics, have negative attitudes about doctors, do not search for nor use health information, and have lower ability and willingness to maintain balanced lifestyles and diets leading to low PHB. Our findings for such consumers parallel those from studies on attempts to quit smoking without formal treatment. For example, Cohen *et al*. (1989) documented that only 13-14% were abstinent from cigarettes 6-12 months after beginning their effort. Recovery from alcohol addiction is also subject to high relapse rates (Brownell, *et al*., 1986; Dimeff & Narlatt, 1998) and most diets do not achieve more than short-term success (Wadden, *et al*., 1996).

The common component in these PHB failures is the false hope syndrome, which suggests that people have unrealistic expectations about the speed, ease, and rewards of self-change (Polivy & Herman, 1999; 2000). People believe that they can change more than is feasible, predict that they will change more quickly/easily than is possible, and believe that changing will improve their lives more than can reasonably be expected (Browhell, 1991; Heatherton, *et al*., 1991; Polivy & Herman, 1992). Deciding to change produces a reinforcing feeling of being in control, which leads to an initiation of a self-change effort. While such changes might be successful early, as time goes by, change becomes more difficult to sustain, and ultimately, little or no further progress is made. Relapses result in an abandonment of the effort, which is now deemed a failure. When failure ultimately occurs, individuals feel worse than before the resolution and try to soften the failure by making attributions to explain it away. These attributions shift the blame away from the unrealistic goals that made the attempt so unlikely to succeed, allowing recommitment to a new future resolution (Polivy & Herman, 2002).

Beyond strengthening self- and response-efficacy (through training programs, for example), marketers and policymakers could frame advertising differentially. Framing messages in terms of losses versus gains can change the way people think about their health (Aronson, *et al*., 2005; Rothman & Salovey, 1997). When trying to get people to detect the presence of disease, it is best to use a loss frame and emphasize what can be lost by avoiding this behavior (e.g., the costs of not examining one's skin for cancer). When trying to get people to engage in PHB, such as disease preventing behaviors, it is best to use a gain frame, emphasizing what they can gain by engaging in this behavior (e.g., using sunscreen). Cismaru and Naus (2002) investigated the framing of a persuasive message concerning a hypothetical preventive surgery. The surgical treatment option was judged as more attractive when the outcome was framed positively (in terms of survival) than negatively (in terms of number of deaths). Since people prefer the gain over the loss frame (Kahneman & Tversky, 1979), PHB messages should fit the desired outcome (prevention or detection). Accordingly, the appeal for the passive consumer should be based on emotions, symbols, public pressure, and intimidation, all framed as losses. These would help passives to recognize and cope with risks, leading to action (Kotler and Hornik, 2001). In contrast, since active consumers are open minded, look for information, and value harmony between thoughts, feelings, and actions (Festinger, 1957), appeals should use professional spokespeople, rational appeals, and comparative advertising (Geva, 1994; Hornik & Liberman, 1994; Kotler & Hornik, 2001). In this respect, it is illuminating to note that positively framed messages were effective in motivating the elderly in Jayanti's study (2010), more so for individuals with high levels of health motivation, knowledge, and efficacy.

Pechmann, *et al*. (2003) identified seven message themes for antismoking advertising among adolescents. Based on protection motivation theory (Rogers, 1983), people's motivation to protect themselves is enhanced by four cognitions (the risk severity, vulnerability to it, self-efficacy at performing the risk-reducing behavior, and response efficacy of the advocated behavior). On the other hand, motivation to protect oneself is weakened by three cognitions (perceived cost of the advocated risk-reducing behavior and the perceived costs and benefits) and coping appraisals (self-efficacy, response efficacy, and costs). Accordingly, marketers and policymakers should design antismoking campaigns by using norm-based appeals. Similar advertising and promotion should prove effective in inducing PHB (i.e., morality appeals and society's costs of treating illness).

An oral delivery of information enhances persuasiveness compared to a written delivery (Cismaru & Naus, 2002). Thus, health naturopaths and PHB professionals should use at points-of-purchase demonstrations to explain products and provide samples, especially given the high-involvement buying context (Geva, 1994). The content and phrasing of health-related messages could have a powerful impact on attitudes and behavior as

individuals differ in response patterns according to their locus-of-control (Ramantan & Menon, 2002). Those high on external locus-of-control are more amenable to effective interventions than those high on external locus-of-control (Kidwell & Jewell 2002). In our context, internals should exhibit high levels of self-efficacy and response efficacy, making them a preferred target segment for PHB products. Finally, buyers are more apt to use a product right after they purchase it, when the price is vivid and fresh (Mahoney 2002). Since PHB is an ongoing concern for active consumers, per-day pricing (psychology of pricing) should encourage continuous consumption. Such a pricing strategy could be used to advantage by health club, health insurers (to encourage checkups), and diet clubs.

These recommendations notwithstanding, Prasad *et al*. (2008) found that the more health-conscious the households the less price-sensitive it tend to be. Given that health consciousness was predicted in their study by household income, house ownership, education and employment of the male household head, and the presence of young children, these demographic characteristics could be used as segmentation bases to identify health-conscious household and target them with premium-priced health choices.

An issue not addressed in the current study involves the choice of effective media to reach individuals high and low on health-consciousness. Fortunately, Dutta-Bergamn's (2004: 273) study addressed this choice. Dutta-Bergamn suggested that "active communication channels such as interpersonal communication, print readership, and Internet communication serve as primary health information sources for health-conscious, health-information oriented individuals with strong health beliefs, and commitment to healthy activities… passive consumption channels such as television and radio serve as primary health information resources for individuals who are not health-oriented."

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