Investigating the Additive Effects of Demographics, Lifestyles, and Personality on Physical Activity Levels in Adult Consumers

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The present study attempts to answer the call for transformative consumer behavior research, by investigating social and psychological determinants of healthful physical activity. The relationship between demographics (e.g., age, gender, and race), lifestyle (e.g., TV viewing, smoking, and drinking), personality (e.g., sensation seeking) and the level of exercise was investigated by using a telephone survey of randomly selected adults (n = 790). Results suggest that demographics (gender and race) and lifestyle (smoking and TV viewing), along with personality (sensation seeking), were significant determinants of self-reported physical activity level. The implications of the findings discussed, along with future directions for research.

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alternatives. These set sizes had been extensively pre-tested and shown to be considered too small and quite limiting (four), an average or moderate number of products in this category (twelve), or far too large and overwhelming (twenty-four). After making their selection, participants were asked to record the degree to which they found the set restrictive, overwhelming, difficult to choose from, incomplete, and the likelihood they selected a non-optimal choice (all multi-item Likert scale measures collapsed into constructs). The data was then analyzed by way of a multivariate ANOVA, and planned-contrast t-tests for specific comparisons.

First, there was a main effect for expectations on all outcome variables (F>5 for all, p<.01 for all). Planned-contrast t-tests reveal that participants who expected an extensive set viewed choice sets in general as more incomplete (p<.01) and restrictive (p<.05), less overwhelming (p<.01), and felt they were less likely to pick a suboptimal choice (p<.05) than participants who expected a sparse set. There was also a significant expectations by set-size interaction effect in the ANOVA (F>5 for all, p<.01 for all). Planned-contrast t-tests here reveal that the effect of expectations is actually largely confined to the moderate set size. When the actual set-size is limited or extensive, no differences between extensive and limited expectations participants on the outcome variables is significant above .05. When the actual set-size is moderate, however, all outcome variables are significant.

Consistent with our propositions, the pattern of results in this moderate-set conditions suggests that the actual set size is viewed in contrast to expectations, rather than assimilated to expectations (Fiske & Taylor 1984). When participants were expecting a limited set, they view the moderate set as having reduced incompleteness and reduced choice restriction, but elevated error likelihood and increased perceptions of being overwhelmed. In short, the results looked not significantly different from when the limited expectations participants viewed the actually extensive set (all p>.05), but significantly different on all variables from the actually limited set (all p<.02). A similar pattern emerges for the extensive set expectations participant. When expecting an extensive set, participants view the moderate set as very restricted and incomplete, but not overwhelming with little choice error. In short, they view the moderate set as not significantly different from the actually limited set (all p>.05), but significantly different from the actually extensive set (all p<.01).

In summary, when participants viewed a truly limited or extensive set, reality trumped any expectation-based effects on size judgments. But when the choice set was of moderate size, participants expecting either a limited or extensive set exhibited a contrast effect, where extensive expectations made the moderate set appear limited while limited expectations made the moderate set appear extensive. This not only has implications for retailers and consumers in how they react to common moderate set sizes, research suggests that the act of expectation disconfirmation itself can lead to lowered satisfaction regardless of the positivity of the outcome (Bennet, Ordonez & Gilliland 2003).

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Extended Abstract
Obesity and its related health problems are a growing concern in the U.S. and abroad, which has prompted a call for transformative consumer research in this area (Mick, 2006). For example, it was recently reported that nearly 40% of adult consumers in America are sedentary and 65% of adults are overweight (body mass index ≥ 25.0 kg/m²) (National Center for Health Statistics, 2005). Given that engaging in regular vigorous physical activity is not only beneficial for the general wellbeing of consumers but also important in terms of the related financial cost to government and businesses, it is imperative for health marketing professionals to understand various determinants of physical activity levels. The objective of the current study is to investigate the additive effects of demographics (e.g., age, gender, and ethnicity) lifestyle (e.g., TV watching, smoking, and drinking) and personality (e.g., sensation seeking) on physical activity levels, which can have implications to effective segmentation and targeting of health communications about the latter.

A growing body of evidence suggests that age and gender are the most consistent determinants of physical activity levels in adults (Caspersen, Pereira, & Curran, 2000; Ingram, 2000; Nelson, Gordon-Larsen, Adair, & Popkin, 2005; Sallis, 2000). Studies have found males tend to exercise more vigorously than females and overall exercise levels decline with age. Age-related decline in exercise levels has been well supported in non-human studies as well, indicating that age-related decline has a strong biological basis (Ingram, 2000; Sallis, 2000). In addition to age and gender, ethnicity has also found to be related with exercise levels in adults. Caucasians are reported to be more physically active than non-Caucasians (Caspersen & Merritt, 1995). Lifestyles characterized by certain types of consumption
(i.e., drinking, smoking and excessive TV viewing) can adversely affect physical activity levels as well (Sale, Guppy, & El-Sayed, 2000; Tucker, 1986; Tucker & Bagwell, 1991). The current study builds upon the literature which has found the above demographic and lifestyle variables to impact physical activity levels. In addition, the biologically-based personality trait, sensation seeking (Zuckerman, 1994), is also examined given its negative relationship to age and its use as a segmentation tool in other health marketing research (Palmgreen, Lorch, Donohew, Harrington, D’Silva, & Helm, 1995).

A telephone survey methodology was employed here, to investigate the relationship between adult respondents’ demographics, lifestyles and personalities and the reported physical activity levels \( n=790 \). A stratified random sampling technique was used to generate a list of names and telephone numbers for adults 18 years of age and older, from two top 25 DMAs in the eastern United States. Demographic data were collected on respondents’ age, gender, and race (Caucasian/minorities). Respondents were also questioned about certain consumption behaviors, including the amount of time they spent watching TV (average hours of daily viewing and average days viewed) and health related behaviors such as smoking (smoking/non-smoking) and drinking (drinking/non-drinking). The personality trait of sensation seeking was measured using the 19-item Impulsive Sensation-Seeking scale (ImpSS, Zuckerman, 1994; 1996). Finally, respondents’ level of physical activity was gauged by asking them how many days during the past week that they engaged in vigorous physical activity that lasted 20 minutes or more (0 to two days per week/three or more days per week), based on the recommended criterion suggested by the Healthy People 2000 (U.S. Public Health Service, 1991).

Caucasians made up 69% of the sample, which had a mean age of 42.5. Slightly over half of the study participants were female (56%). Logistic regression analyses were used here and findings are as follows: Males were significantly more likely than female to exercise three or more days per week. Caucasians were significantly more likely than non-Caucasians to report that they exercise three or more days per week. Non-smokers were significantly more likely to report exercising three or more days per week. Heavy TV viewers were significantly less likely to report exercising three or more days per wk, compare to those who are light viewers. Lastly, high sensation seekers were significantly more likely to report exercise three or more days per week than low sensation seekers.

In line with previous studies, results suggest that demographic variables (i.e., gender, race), lifestyle (i.e., smoking, TV watching), and personality (i.e., sensation seeking) were significantly related to self-reported levels of physical activity among adults. For high sensation-seekers, they were more likely to engage in regular physical activity than low sensation-seekers. This finding suggests that a biological-based trait such as sensation seeking might account for the age-related decline trends in physical activity levels. Moreover, this biosocial phenomenon is in line with what Sallis (2000) and Ingram (2000) found with physical activity declines in non-human species. This suggests that more research in this area should be conducted looking at the relationship between optimum stimulation level (OSL) constructs like ImpSS, and physical activity. The present study also provides some practical implications as well. Along with demographic segmentation, targeting consumers via psychographic and lifestyle patterns can advance the goals of public health communication (Albrecht & Bryant, 1996; Maibach, Maxfield, Ladin, & Slater, 1996). Thus, studies in this area might help answer the call for transformative consumer behavior research in this context (Mick, 2006).

References
The Effects of Recurrent Mortality Salience Mediated by the Availability Heuristic on Risky Behavior and Subjective Probability
Evidence from AIDS Related Cognition and Sexual Behavior of Indian Truckers
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Extended Abstract

Cognitions related to HIV/AIDS as well as sexual behaviors of Indian truckers have been the targets of attention from social marketers, as well as the foci of research by academic researchers yielding intriguing results. For example, it was found that only 14% of Indian truckers were aware that using condoms reduces their chances of contracting HIV/AIDS, yet 79% of them were aware that AIDS is incurable. These and other findings suggest that Indian truckers demonstrate better knowledge of HIV/AIDS in general than the specific knowledge that condoms are effective in preventing the spread of the disease. In addition, 75% of Indian truckers believed that the women they had casual sex with could have HIV/AIDS, but 92% of them believed that there was “no chance” that they would contract the disease in their lifetimes (Bryan, Fisher and Benziger, 2001). It can be assumed that persuasive messages targeted at Indian truckers would urge them to use condoms and such messages would be placed in media patronized by them. Why then, do Indian truckers exhibit low awareness of the protection against HIV afforded by condoms, demonstrate low usage of condoms and believe that they are immune to HIV despite their beliefs that their partners are highly susceptible to HIV? The answer may lie in the high rate of fatalities among Indian truckers on the highways.

The highway network in India is comparatively unsafe with the majority of accidents involving dilapidated trucks driven by truckers who are often either intoxicated or under the influence of cheap narcotics. Major accidents result in wrecks of trucks that are pushed to the side of the highway where they are visible to other truckers (Mohan, 2004). As a result, death due to a highway accident is made more salient to Indian truckers than that due to diseases such as HIV/AIDS. In general, death as a result of an accident is highly visible as opposed to death as a result of disease—which claims one victim at a time in a private space.

People who are non-professional drivers judge accidents to cause as many deaths as disease, although disease causes 16 times as many deaths as accidents (Slovic, Fischhoff and Lichtenstein, 1982). This effect might be exacerbated for Indian truckers due to the visibility of instances of fatalities resulting from truck accidents, which would probably increase truckers’ subjective probability of death due to accident, owing to the operation of the availability heuristic (Tversky and Kahneman, 1973). Support theory (Tversky and Koehler, 1994) describes subjective probability as a relation between the judgment of the support for a focal hypothesis (description of an event) and that of the alternative hypothesis (description of the other event). Refinements of support theory suggest that if truckers judge the focal hypothesis of death due to accident as highly probable, it would result in discounting of the alternative hypothesis of death due to causes other than accident, as a result of the enhancement effect (Koehler, Brenner and Tversky, 1997). Unpacking the alternate hypothesis into components such as death due to HIV/AIDS would result in implicit subadditivity. Implicit subadditivity results when the aggregate of the subjective probabilities of the components of the alternate hypothesis exceeds that of the alternate hypothesis. However, a reminder of the typicality of the behavior for the trucker population may result in implicit superadditivity for oneself, since the individual trucker would like to distance himself from the delinquent behavior and implicit subadditivity typical of the trucker population (Sloman et al, 2004) based on a finding related to terror management theory (Arndt et al, 2002).

It is likely that seeing wrecks of trucks by the side of the highway would induce mortality salience in Indian truckers. It would also seem plausible that seeing a number of accidents and wrecks of trucks would result in recurrent mortality salience. Mortality salience effects have been explained by terror management theory. According to terror management theory (Greenberg, Pyszczynski and Solomon, 1986), self-esteem serves to protect individuals from anxiety under conditions that remind them of their mortality. Individuals seek to deny their mortality by embracing a cultural worldview and deriving self-esteem from living up to its values. When mortality salience occurs, individuals seek to defend their cultural worldview, as well as to increase their self-esteem. An example of the former effect would be resistance to persuasion that carries messages counter to their worldview (Shehryar and Hunt, 2005) especially if the source of such messages was seen to be a member of an out-group (Harmon-Jones et al, 1997). The latter effect could be seen in efforts to reinforce self-esteem in domains that are held to be most relevant to the level of self-esteem of individuals (Goldenberg et al, 2000; Ferraro, Shiv and Bettman, 2005).

Due to the perceived deficiency in self-esteem as a result of mortality salience, it is likely that Indian truckers perceive a loss in self-esteem relative to their subjective reference points. As a result, Indian truckers might be exhibiting risk-seeking behavior due to their perception of relative loss as described in prospect theory (Kahneman and Tversky, 1979). Risky driving behavior has been induced as a result of mortality salience in those for whom driving is important to their self-esteem (Ben-Ari, Florian and Mikulincer, 1999). Similarly, risk-seeking hedonic behavior of unprotected casual sex would probably result due to recurrent mortality salience. Further, it is suggested that release from recurrent mortality salience would serve to boost self-esteem resulting in risk-averse behavior as described in prospect theory.

It is expected that this paper will contribute to social marketing. Apart from Indian truckers, there are myriad other groups who labor under recurrent mortality salience such as the military on active service and even the general population living under threat. It might be seen that the military on active service display a greater frequency of non-combat injuries and fatalities. An understanding of the attitudes toward risk and risky behavior will enable description of risk behavior and cognition under recurrent mortality salience.

References