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The Impact Analysis of Social Marketing Mix on the Intention of Replacing Single-Occupant Vehicles with Urban Public Transport Case Study: Staff Working at State Universities of Isfahan

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Abstract

Nowadays, the growing use of private cars in cities has led to air pollution; hence, breathing clean air as a basic human right has become drastically difficult. Isfahan as the second industrial city of Iran has struggled for years with this problem. In order to reduce the intensity of air pollution, there are many suggestions amongst which replacing Single-Occupant Vehicles (SOVs) with Urban Public Transport (UPT) can be noted. In this study, by using the principles of social marketing and Theory of Planned Behavior (TPB) a conceptual model has been presented to evaluate the impact analysis of social marketing mix on the intention of staff working at the State Universities of Isfahan City in order to replace SOVs with UPT. Data were collected using a closed questionnaire and the model was evaluated by using Amos Graphic Software. The results show that social marketing mix has a significant positive effect on behavioral beliefs and normative beliefs, but a negative effect on the control beliefs of the staff. The effects of behavioral beliefs on attitude, normative beliefs on subjective norms, and control beliefs on perceived behavioral control are significant positive. Also the effects of three variables: attitude, subjective norm, and perceived behavioral control on the intention of the staff are significant positive. Finally, a significant positive effect of social marketing mix on the intention of staff was approved.

Keywords: Social marketing, Social marketing mix, Urban public transport, Theory of planned behavior.

1. Introduction

Isfahan is one of the largest cities in Iran with a population of 1900000 inhabitants which after Tehran, has the second most polluted weather amongst all of the cities. 13 percent of all air pollutants is related to urban industries, 11 percent to domestic resources and 76 percent to urban traffic (Zarrabi et al, 2011). The intensity of Isfahan air pollution is to the extent that most days of the year the temperature inversion occurs. A phenomenon that causes disease, irritability, fatigue and reduces life expectancy (Alami, 2006). Urban public transport (UPT) is an important part of social public welfare closely linked with the daily life of individuals and their socio-economic development (Mingjun et al, 2012). Hence due to the importance of air pollution, the impact of current social marketing mix on the intention of the staff in replacing SOVs with UPT is measured.

2. Literature Review

2.1. Social Marketing

Social marketing has experienced significant growth over the last 3 decades and its application has spread into various areas of social and public life (Alves, 2010). “Social marketing is an interdisciplinary practice” (Brennan et al, 2011:100), which is not a theory in itself but rather draws from many bodies of knowledge to understand how to impact on people’s behavior (Kotler & Zaltman, 1971). Kotler and Lee (2008) consider social marketing, as a model for behavior change, which applies traditional marketing principles to target audience behaviors in order to benefit both society and the individual. Also Corner and Randall (2011) believe that, social marketing is not a behavior change program in and of itself, but a framework by which designing the behavior change programs is possible.

2.2. Social Marketing Mix

Social marketing mix provides one of the differential points in bringing about behavior and social change (Luca & Suggs, 2010). When it comes to social marketing it is necessary to consider the whole marketing mix, not simply advertising (Hastings & Angus, 2011). Like commercial marketing, social marketing involves its own marketing mix, which based on Peattie et al (2009), they can be introduced as “social proposition”, “accessibility”, “social costs of involvement” and “social communication”. However, social marketing needs an appropriate marketing mix compatible with its own social issues. It means that in addition to the 4 components mentioned above, other components consistent with the study could be added. So social marketing mix of the present study is as follows:

Social proposition instead of product: In commercial marketing, product considerations include the actual product or service, for social marketing though product is the specific behavior that the campaign planners would like their targeted individuals to adopt (Perese et al, 2005). In fact the goal in social marketing is to move people away from an intensive form of consumption to a much lower intensity behavior to meet the same need (Peattie & Peattie, 2009).

Accessibility instead of place: The place in commercial marketing usually is about the distribution channels used to make the product available to target audiences (Perese et al, 2005). However, since social marketing is not based around physical products, talking about distribution or place issues is not appropriate. Also social marketing has something in common with services marketing in that the key issue is accessibility (Peattie et al, 2009).

Costs of involvement instead of price: The price in commercial marketing is mostly about the money paid for the product or service (Perese et al, 2005). For social marketing though, the price refers to the costs of changing behavior such as time, effort, etc. (Peattie et al, 2009).

Social communication instead of promotion: In commercial marketing promotion refers to the all marketers do to ensure the target audience is aware of the product, its benefit, its price and its accessibility (Perese et al, 2005). For social marketing though, promotion means social communication that aims to build up confidence and trust to the extent that provides the adoption and maintenance of a particular behavior (Menegaki, 2012).

Policy: Policy is one of the elements of social marketing mix which can be used in research projects if necessary. Based on the research of Raftopoulou and Hogg (2010), as the main focus of social marketing is social welfare, obviously social marketing has essentially a kind of political foundation. Also according to Morris and Clarkson (2009), policy as the fifth P of social marketing mix gives policymakers additional levers with the potential to support behavior change which are not available to their commercial counterparts.

2.3. Theory of Planned Behavior

One of the most widely used theories in social marketing projects is theory of planned behavior. According to Ajzen (1991), TPB is an extension of TRA which adds the additional construct of an individual's perceived control over performance of the behavior. The components of this model are as follows:
Behavioral Beliefs: Beliefs about the consequences of performing the behavior (e.g. it will reduce medical expenses), weighted by outcome evaluations of the desirability of those consequences (e.g. reducing medical expenses would be a good/bad thing). These beliefs would predict attitude (Stead et al, 2005).

Normative Beliefs: Beliefs about whether significant others (e.g. friends, family members and colleagues) would approve of one performing the behavior in question, weighted by one's motivation to comply. These beliefs would predict subjective norms (Stead et al, 2005).

Control Beliefs: Beliefs which provide the basis for perceptions of behavioral control. Each control belief is multiplied by the perceived power of the particular control factor to facilitate or hinder performance of the behavior (Ajzen, 1991).

So far, based on the research literature, the following hypotheses are proposed:
H1: Social marketing mix has a significant positive effect on the staff's behavioral beliefs in order to replace single-occupant vehicles with urban public transport.
H2. Social marketing mix has a significant positive effect on the staff's normative beliefs in order to replace single-occupant vehicles with urban public transport.

H3. Social marketing mix has a significant positive effect on the staff's control beliefs in order to replace single-occupant vehicles with urban public transport.

Attitude: Based on Francis et al (2004), attitude refers to an individual's overall evaluation of performing the specific behavior which is made of two parts. First, instrumental items (i.e. whether the behavior achieves something e.g. valuable). Second, experiential items (i.e. how it feels to carry out the behavior e.g. enjoyable).

Subjective Norms: In TPB model, subjective norm refers to the beliefs and opinions of important others (e.g. colleagues, family and friends) in general (paek et al, 2011).

Perceived Behavioral Control: PBC refers to an individual's self-efficacy and his/her beliefs about the controllability of the behavior (Francis et al, 2004).
So far, based on the research literature, the following hypotheses are proposed:
H4. Behavioral beliefs have a significant positive effect on the staff's attitude toward to replace single-occupant vehicles with urban public transport.
H5. Normative beliefs have a significant positive effect on the staff's subjective norms in order to replace single-occupant vehicles with urban public transport.
H6. Control beliefs have a significant positive effect on the staff's perceived behavioral control in order to replace single-occupant vehicles with urban public transport.

Intention: An individual's motivation in the senses of his/her conscious plan to put effort to perform a behavior is called intention. Obviously there is not a perfect relationship between intention and actual behavior; however intention can be applied as a proximal measure of behavior (Francis et al, 2004).
So far, based on the research literature, the following hypotheses are proposed:
H7. Staff's attitudes have a significant positive effect on intention of replacing single-occupant vehicles with urban public transport.
H8. Staff's subjective norms have a significant positive effect on intention of replacing single-occupant vehicles with urban public transport.
H9. Staff's perceived behavioral control has a significant positive effect on intention of replacing single-occupant vehicles with urban public transport.
H10. Social marketing mix has a significant positive effect on the staff's intention of replacing single-occupant vehicles with urban public transport.
Finally, social marketing is one type of marketing which has been used for changing the behavior in different fields of study especially in the field of public health. In fact if social marketing is useful for reducing smoking rates, definitely similar tactics could be employed to show people that driving their cars is harmful for the environment, or perhaps to make riding the bus the new "cool" thing (Sorell, 2004).
The research model is shown in figure 1:

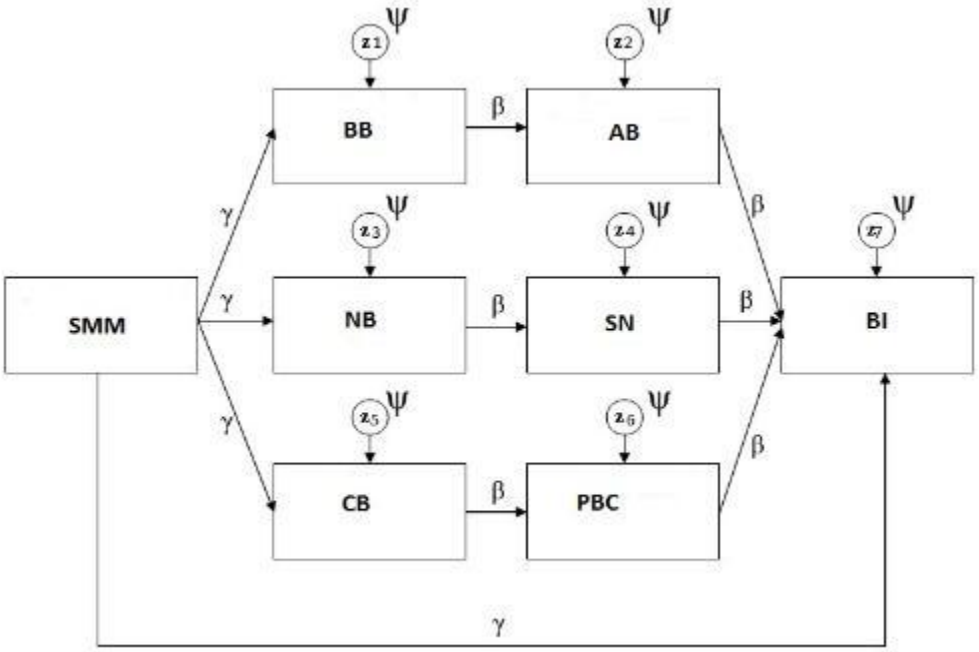


Figure1. Model of study

3. Methodology

The staff working at three State Universities of Isfahan were our sample population for data collection. Total number of staff was 1,697 people. 250 questionnaires were distributed on a stratified random sampling proportional to size, out of which 225 usable were received back.

4. Findings and Analysis

In the main model of the study behavioral beliefs, normative beliefs, control beliefs, attitude, subjective norms and perceived behavioral control are the internal variables playing the role of dependent and independent variable simultaneously. In addition behavioral intention just appears as dependent variable and social marketing mix appears only as independent variable. The fit indices for path analysis model are presented in Table 1.

Table 1 The model fit indices

index	Main model

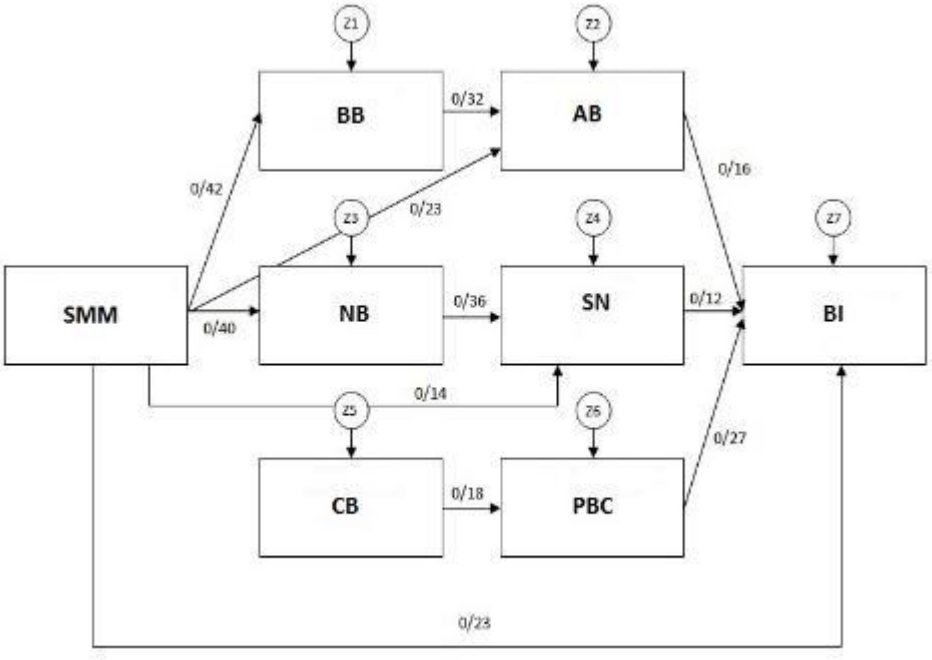
NPAR	31
DF	5
CMIN	6.642
P (> 0.05)	.249
CFI (> 0.9)	.997
TLI (> 0.9)	.982
RMSEA (0.08)	.039
CMIN/DF (< 5)	1.328

Fitting parameters reported in the above table indicate that an acceptable fit of the model has been developed.

Table 2 Path analysis of the model

			Estimate	S.E.	C.R.	P
BB	<---	SMM	.415	1.962	6.632	***
NB	<---	SMM	.396	1.765	6.277	***
CB	<---	SMM	-.007	1.192	-.104	.917
AB	<---	BB	.320	.003	4.863	***
SN	<---	NB	.359	.003	5.497	***
PBC	<---	CB	.181	.004	3.139	.002
BI	<---	AB	.162	.064	3.044	.002
BI	<---	SN	.116	.070	2.021	.043
BI	<---	PBC	.269	.065	8.263	***
BI	<---	SMM	.229	.082	4.366	***

Finally, the following modifications of the model were confirmed:



The result of H_1 indicates that social marketing mix has a significant positive effect on the staff's behavioral beliefs in order to replace SOVs with UPT (β= .42, p<.001). In fact the set of activities performed by concerned organizations in influencing people's behavioral beliefs seems to be good. Rezaie et al (2012) in their study consider beliefs as one of the attitude's dimensions. However, their concentration is more on the direct effects rather than the beliefs of social marketing mix.

The result of H_2 indicates that social marketing mix has a significant positive effect on the staff's normative beliefs in order to replace SOVs with UPT (β= .40, p<.001). It seems that the set of activities performed by concerned organizations in influencing reference groups is good. However as no similar research has been done, comparing the result of this hypothesis with the results of other studies could not be possible.

The result of H_3 indicates that social marketing mix has a negative impact on the staff's normative beliefs in order to replace SOVs with UPT (β= -.007, p>.05). In fact the set of activities performed by concerned organizations in influencing people's control beliefs seems to be weak. Like the previous hypothesis, due to the lack of access to similar studies comparing the result of this hypothesis with the results of other studies could not be possible.

The result of H_4 indicates that behavioral beliefs of the staff have a significant positive effect on the attitude (β= .32, p<.001). This part's result is in line with the results of Lee et al (2004).

The result of H_5 indicates that normative beliefs of the staff have a significant positive effect on the subjective norms (β= .36, p<.001). In other words, reference groups (i.e: colleagues, family and friends) play a key role in encouraging staff to use public vehicles instead of single-occupant vehicles. This research's result is in line with the results of Lee et al (2004).

The result of H_6 indicates that control beliefs of the staff have a significant positive effect on the perceived behavioral control (β= .18, p<.002). In other words, Factors such as standing in line, atmospheric conditions, and the distance from home to the workplace affect employees' perceived behavioral control. This research's result is in line with the results of Lee et al (2004).

The result of H_7 indicates that staff's attitudes have a significant positive effect on the intention of replacing SOVs with UPT. (β= .16, p<.002). This research's result is in line with the results of Schaalma et al (2009), Teo and Lee (2010) as well as Alam and Sayuti (2011), but is not in line with the result of Lee et al (2004).

The result of H_8 indicates that staff's subjective norms have a significant positive effect on the intention of replacing SOVs with UPT (β= .12, p<.043). This research's result is in line with the results of Alam and Sayuti (2011), Teo and Lee (2010) as well as Lee et al (2004), but is not in line with the result of Ries et al (2012).

The result of H_9 indicates that staff's perceived behavioral control has a significant positive effect on the intention of replacing SOVs with UPT (β= .27, p<.001). This research's result is in line with the results of Thomson et al (2012) and Lee et al (2004), but is not in line with the results of Ho et al (2008) and Teo and Lee (2010).

The result of H_{10} indicates that social marketing mix has a significant positive effect on the staff's intention of replacing SOVs with UPT (β= .23, p<.002). The social marketing is explicitly about behavior change and is solution-focused (Morris & Clarkson, 2009), but identifying the behavior of individuals needs a retest study. It means that using intention as a proximal measure of behavior is possible; however in the present study the goal is not to reveal the actual behavior of the staff.

Aside from the hypothesis tested in this study, two other results were also obtained. First, Social marketing mix has a significant positive effect on the staff's attitudes in order to replace single-occupant vehicles with urban public transport (β= .23, p<.001). This Adverse result is not in line with the result of Rezaie et al (2012). Also Social marketing mix has a significant positive effect on the staff's subjective norms, but due to the lack of access to reliable sources there's a limitation in comparing this adverse result with the results of other studies.

5. Discussion and Conclusion

Using the results of this study, the following recommendations are offered:

1. The allocation of subsidies to urban public transport systems provide citizens with economic saving. Imposing a social cost to the community, should be proportional to the quality of transport services. Thus by providing people's satisfaction, they can be encouraged to support relevant policies and proposals.
2. Human being is a social creature. It means all members of a society are linked together as a chain. In the domain of each person's relationships, family, friends and colleagues play an important role which affects the person's behavior. With further enhancement of UPT, planning efficient programs, and targeting small members of families, raising

awareness of the new generation can be provided. Therefore the attention to problem of air pollution would not be only restricted to the international clean air day.

3. It may be a good idea to protect air quality, but transport plays a significant role in people's daily lives. Hence, when responsible organizations for reducing air pollution and urban public transport systems are trying to influence people's choice of transport; they should put people's values such as personal comfort and time into consideration.
4. There are cities and countries that have been able to reduce the use of private cars. They have had a big step towards reducing the social costs of short-term and long-term. Hence, by providing policies in line with this knowledge, it is possible to minimize the gap between awareness and action.
5. Normative belief in comparison with behavioral belief and control belief (as predicator variables) is the highest impact factor. Although the referents have the greatest effect on a person to do a particular behavior, each individual has the power to decide whether to perform the behavior or not. Therefore, more efficient policies should be used in order to increase the power of control over using UPTs.
6. There is a need for programs that reduce the amount of time people wait for UPT. Also with broader coverage of streets, especially the newly built streets with appropriate public vehicles as well as increase in the number of chambers (instead of metal benches which are just places to sit), taking advantage of the urban public vehicles will be provided for all seasons.
7. Establishing useful policies and procedures to convey this message that in the world's biggest cities and in certain hours of the day public vehicles are crowded. So even though this may be a major cause of unhappiness, by emphasis on significant benefits of using UPT in long term, change people's attitude positively over using these vehicles.
8. The effect of subjective norm on intention in comparison with attitude and perceived behavior control is weak. Although the confirmation of colleagues, friends and family for using UPT and the importance of this issue from their viewpoints impress amount of using these vehicles, there's a need to produce programs that target this social movement. The more individuals receive social pressure from the referents, the more they are ready to accept the behavior. As a result, by producing sensitivity and social responsibility among individuals, they can be a model for each other.
9. Perceived behavioral control in comparison with attitude and subjective norm (as predicator variables) is the most influential factor on the intention of using UPT instead of SOVs. Although the variety of public vehicles in Isfahan is low, the relevant organizations should make efforts to improve transportation system and develop programs to reduce people's indolence.
10. As the time goes by; attitudes, subjective norms, perceived behavioral control, intention and beliefs of people easily change. Therefore, in future, the result of the present study may not be valid to aforementioned factors. Hence, the experts should plan their programs in accordance with economic, environmental and seasonal conditions.

By using the results of this research, the future researchers can investigate the actual behavior of these staff. Also considering factors such as fuel prices, fuel quality and traffic laws can be

beneficial in future researches. To validate the model, this study can be applied to other countries and provinces with different cultures.

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References

Ajzen, I. (1991), The Theory of Planned Behavior, Organizational Behavior and Human Decision Processes, Vol. 50, No. 2, pp. 179-212.
Alam, S. S. and Sayuti, N. M. (2011), Applying the Theory of Planned Behavior (TPB) in Halal Food Purchasing, International Journal of Commerce and Management, Vol. 21 Iss: 1 pp. 8-20.
Alami, M. (2006), Prediction of the Role of Subway in Improving Urban Traffic and Reducing Air Pollution (Case study: Isfahan City), Master's Thesis, Faculty of Literature and Humanities, Isfahan University.
Alves, H. (2010), The Who, Where, and When of Social Marketing, Journal of Nonprofit & Public Sector Marketing, 22 (4), 288-311.
Brennan, L., Voros, J. and Brady, E. (2011), Paradigms at Play and Implications for Validity in Social Marketing Research, Journal of Social Marketing, Vol.1 No. 2, pp.100-119.
Corner, A. and Randall, A. (2011), Selling Climate Change? The Limitations of Social Marketing as a Strategy for Climate Change Public Engagement, Global Environmental Change 21, pp. 1005-1014.
Francis, J. J., Eccles, M. P., Johnston, M., Walker, A., Grimshaw, J., Foy, R., Kaner, E. F. S., Smith, L. and Bonetti, D. (2004), Constructing Questionnaires Based on the Theory of Planned Behavior: A Manual for Health Services Researchers, Centre for Health Services Research: Newcastle Upon Tyne, United Kingdom.
Gordon, R. (2011), Critical Social Marketing: Definition, Application and Domain, Journal of Social Marketing, Vol.1 No. 2, pp. 82-99.
Hastings, G. and Angus, K. (2011), When is Social Marketing not Social Marketing, Journal of Social Marketing, Vol.1 No. 1, pp. 45-53.
Ho, S. S., Lee, W. and Hameed, S. S. (2008), Muslim Surfers on the Internet: Using the Theory of Planned Behaviour to Examine the Factors Influencing Engagement in Online Religious Activities, New Media and Society, Sage publications, Vol. 10(1), pp. 93-113.
Kotler, P. and Lee, N. (2008), Social Marketing: Influencing Behaviors for Good, 3rd ed, Los Angeles, CA: Sage Publications.
Kotler, P. and Zaltman, G. (1971), Social marketing: an approach to planned social change, Journal of Marketing, Vol. 35, pp. 3-12.

Lee, J., Cerreto, F. A. and Lee, J. (2010), Theory of Planned Behavior and Teachers' Decisions Regarding Use of Educational Technology, Educational Technology & Society, 13 (1), 152–164.
Luca, N. L. and Suggs, L. S. (2010), Strategies for the Social Marketing Mix: A Systematic Review, Social Marketing Quarterly, 16 (4), pp. 122-149.
Menegaki, A. N. (2012), A Social Marketing Mix for Renewable Energy in Europe Based on Consumer Stated Preference Surveys, Renewable Energy, No. 39, pp. 30-39.
Mingjun, L., Yang, J., Lingling, Y. and Zheng, Z. (2012), An Elastic Analysis on Urban Public Transport Priority in Beijing, Procedia-Social and Behavioral Sciences 43, pp. 79-85.

Morris, Z. S. and Clarkson, P. J. (2009), Does Social Marketing Provide a Framework for Changing Healthcare Practice?, Health Policy 91, pp.135-141.
Paek, H., Bae, B. J., Hove, T. and Yu, H. (2011), Theories into Practice: A Content Analysis of Anti-Smoking Websites, Internet Research, Vol. 21 No. 1, pp. 5-25.
Peattie, K. and Peattie, S. (2009), Social marketing: A Pathway to Consumption Reduction?, Journal of Business Research 62, pp. 260-268.
Peattie, K., Peattie, S. and Ponting, C. (2009), Climate Change: A Social and Commercial Marketing Communications Challenge, EuroMed Journal of Business, Vol.4 No.3, pp. 270-286.
Perese, L., Bellringer, M., & Abbott, M. (2005), Literature Review to Inform Social Marketing Objectives and Approaches and Behavior change Indicators to prevent and minimize Gambling harm, Wellington, New Zealand.
Raftopoulou, E. and Hogg, M. K. (2010), The Political Role of Government-Sponsored Social Marketing Campaigns, European Journal of Marketing, Vol. 44 No. 7/8, pp. 1206-1227.
Rezaie D. H., Amiri, F. and Ganji, B., O. (2012), Using Social Marketing Principles to Describe Local Isfahan Managers' Attitude about Using New Energy Resources, International Journal of Marketing Studies, Vol. 4, No. 3, pp. 160-172.
Ries, F., Hein, V., Pihu, M., and Armenta, J. M. S. (2012), Self-Identity as a Component of the Theory of Planned Behaviour in Predicting Physical Activity, European Physical Education Review 18(3), pp. 322-334.
Schaalma, H., Aarø, L. E., Flisher, A. J., Mathews, C., Kaaya, S., Onya, H., Ragnarson, A. and Klepp, K. I. (2009), Correlates of Intention to Use Condoms Among Sub-Saharan African Youth: The Applicability of the Theory of Planned Behavior, Scandinavian Journal of Public Health, 37(Suppl 2), pp. 87-91.
Sorell, M., L. (2004), Transportation Choices: Can Social Marketing Make a Difference?, Master in City Planning, Massachusetts Institute of Technology.
Stead, M., Tagg, S., MacKintosh, A. M. and Eadie, D. (2005), Development and Evaluation of a Mass Media Theory of Planned Behaviour Intervention to Reduce Speeding, Oxford Journals, Vol.20 No.1, pp. 36-50.
Teo, T. and Lee, C. B. (2010), Explaining the Intention to Use Technology Among Student Teachers: An Application of the Theory of Planned Behavior (TPB), Campus-Wide Information Systems Vol. 27 No. 2, pp. 60-67.
Thomson, C. E., White, K. M., and Hamilton, K. (2012), Investigating Mothers' Decisions about Their Child's Sun-Protective Behaviour Using the Theory of Planned Behaviour, Journal of Health Psychology 17(7), pp. 1001-1010.

Zarrabi, A., Mohammadi, J. and Abdollahi, A. (2011), Evaluation of Fixed and Mobile Sources of Air Pollution in Isfahan, Journal of Geographic Society of Iran, 8(26), pp. 151-164.