

Testing the theory of planned behaviour in predicting women's intention about weight gain prevention

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ABSTRACT

Objective: The study was to test the theory of planned behaviour in predicting women's intention about weight gain prevention.

Methodology: A correlation study design with multiple regression and path analysis was used. The sample of the study was 270 healthy women between the ages of 21-45 who were married, and able to respond to a questionnaire. The participants were recruited from regions of four primary health care centers in Malatya, Turkey. The women were visited, interviewed and the questionnaire was filled in their homes. The data of the study were analysed through frequency distribution, multiple regression, path and correlation analyses.

Results: Path analysis confirmed the direct and indirect relationships of the theory of planned behaviour in predicting women's intention about weight gain prevention. Regression analysis computed the model path coefficients ranging from β .612 to .940. Overall, the Theory of Planned Behaviour explained 77.48% of the variance.

Conclusions: A woman's attitude towards weight gain prevention and referent motivation needs further explanation prior to the development of women's intention about weight gain prevention.

KEY WORDS: Intention, Behaviour, Weight gain prevention, Theory of planned behavior.

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INTRODUCTION

Over weight and obesity are increasingly prevalent public health concerns in the industrialized world.¹ In the United States, it is estimated that between 280,000 and 325,000 deaths a year are attributable to obesity, making it second only to smoking as a preventable cause of death.² Apart from the increased risk of mortality associated with excess body fat, obesity increases the risk of developing a variety of diseases.³ Although the medical consequences of obesity are of central concern to researchers and clinicians, obesity also appears to affect adversely an individual's capacity to live a full and active life.⁴⁻⁷

According to a study in Turkey, about one fourth (25.2%) of Turkish men over 30 years old and almost half of the women (44.2%) of alike age are obese. When considered separately in groups of middle aged (31-49) and elderly (50 and over), it is concluded that this

prevalence does not differ significantly (24.8% and 25.7%) while it increases significantly for women (respectively 38% and 50.2%). Previous studies results indicate that the prevalence of obesity steadily increases both in Turkey and in the world.^{8,9} Therefore nurses should develop themselves for a special role to be able to cope with obesity. The first objective in managing of obese patients is to establish a physical exercise program, an appropriate behaviour, and a diet. So, the nurse should determine the possibility of adult women with obesity to exhibit intention of the accurate behaviour.

The Theory Planned Behavior (TPB) have been tested in several studies of social and environment related behaviours in Turkey.¹⁰⁻¹³ However, previous researchers have not examined whether variables specified in the TPB are able to account for unique portions of the variance in reporting related to prevention of weight gain of women's intention. This conceptual and empirical gap was explored in this study. Therefore, the purpose of this study was to test the utility of the Theory of Planned Behaviour (TPB) to predict prevention of weight gain of women's intention in Turkey.

The aim of this study was to test the applicability and adequacy of the Theory of Planned Behaviour (TPB), which constitutes the basis of researches in many fields, in developing preventive behavioural of weight gain of women.

Theoretical Framework: Preventive behavioural of weight gain behaviour is an observable or documented response mediated by actual behavioural control and intention. Thus, according to the TPB, intention is the immediate antecedent to behaviour, the cognitive process of an individual's readiness to perform a given behaviour, and the predictive variable to be measured.¹⁴

Intention is predicted by the direct variables of attitude, subjective norm, and perceived behavioural control. Attitude towards prevention of weight gain is defined as a "person's general feeling of favorable or unfavorable for prevention of weight gain".¹⁵ Subjective norm is the perception of social pressures to perform or not perform prevention of weight gain. Perceived behavioural control is the perception of one's ability to obtain an ideal body weight. Actual behavioural control refers to the extent to which a person has the skills, resources, and other prerequisites needed to perform a given behaviour.¹⁴ Based on the TPB, intention is mediated indirectly by contextually held beliefs. These beliefs are derived through elicitation interviews with the study population for the purpose of item construction.

The products of behavioural beliefs and outcome evaluation, normative beliefs and motivation to comply, as well as control beliefs and perceived power have an indirect effect on intention about weight gain prevention.

METHODOLOGY

A correlation study design with multiple regression and path analysis was used. The population for this study consisted of women between the ages of 21-45 who were married and able to respond to a questionnaire, who live in the field of four primary health care centres in Malatya, Turkey. A convenience sample of 270 women was recruited from the women and they completed questionnaire that the researchers presented to the women while visiting them in their homes.

Instrument and Data Collection: The data of this study were collected between 15 March and June 1st 2008. The data was collected using a standard questionnaire which included demographic characteristics and items of women's intention about weight gain prevention. The questionnaire used was developed by researchers in accordance with the theory of this study. Women's weight was assessed with BMI.^{9,15,16}

Ethical Considerations: The institutional review board at Inonu University approved the study. Additionally, a verbal approval was obtained from the women participating in this study.

Data Analysis: Data were evaluated through frequency distribution, multiple regression, path and correlation analyses.

RESULTS

The mean age of the women was 37.7 ± 9.9 years, and 28.2% of them had graduated from primary school, their mean monthly income was 931.6 ± 373.4 US \$. The mean duration of breast cancer since diagnosis was 2.9 ± 2.5 years. The majority had health insurance and the mean BMI of the sample group was 29.8 ± 5.2 .

Figure 1 depicts the results of the causal model of the TPB based on the statistically significant path coefficients for predicting women's intention about weight gain prevention in the sample. Regression between the main components of TPB and their capacity to account for the development of intention towards behaviour were initially examined.

As shown in this figure, women's attitudes towards behaviour were statistically significant regarding intention to develop beneficial behaviours about weight

gain prevention ($\beta = .943^{***}$, $p < 0.01$) Women’s subjective norms were also sufficient to support their intention to prevent weight gain ($\beta = .845^{**}$, $p < 0.01$). Perceived behavioral control was also statistically significant ($\beta = .896^{**}$, $p < 0.01$), meaning that women who have the opportunity to prevent weight gain will attempt to do so. Thus, the three questionnaire categories are statistically significant for intention to exhibit preventive weight gain behaviour. The model is statistically significant and establishes intention for preventive behaviour for weight gain with a variance of 77.6%. More than half of this variance (63%) is accounted for in the category perceived behavioral control.

We also found that demographic characteristics of both a relatively high level of education and having health insurance affected behavioral attitudes, subjective norm, and perceived behavioral control of weight gain prevention. The characteristics accounted for behavioral attitudes with variance of 58.5%, for subjective norms with variance of 35%, and for perceived control beliefs with variance of 34.2%. These findings demonstrate that demographic characteristics had an impact on TPB.

Education level and health insurance taken together directly affected perceived behavioral control about intention to prevent weight gain (Table-I). These two characteristics account for perceived behavioral control towards preventive intention of weight gain with a variance of 63%. Behavioural, normative, and control beliefs have indirect effects on the formation of intent to perform such preventive behaviours. Attitudes, although indirectly measured, were found to be strong determinants for subjective norms and behavioral control. Correspondingly, intention to prevent weight gain related to attitudes, subjective norms and behavioral control had a direct effect on the development of behaviour intended to prevent weight gain prevention.

DISCUSSION

The regression and path analysis were used to initially examine. The women’s attitudes towards behaviour were statistically significant in terms of the intention to develop beneficial behaviours for prevention of weight gain intention and this effect was statistically high as well. The women’s subjective norms also had a significant impact on intention to initiate behaviour that prevents weight gain prevention, a finding indicating that women are willing to do what is expected of them by those with whom they have to live. Perceived behavioral control has a statistically high effect (Figure-1), suggesting that women who

have the opportunity to form intention to prevent weight gain prevention will do so.

Steele and Porche¹⁷ found that perceived behavioral control accounts for the highest variance. Feng and Wu determined that subjective norms and perceived behavioral control had lower contributions to the variance of intention to behaviour.¹⁸ The results of the model testing supported the extended TPB model in predicting nurses’ intention of child abuse reporting behaviours in Taiwan, and perceived behavioral control were significant predictors of intended reporting behaviours.

The three categories were statistically significant in terms of predicting behaviours intended to prevent weight gain. The model is therefore appropriate to use in terms of accounting for the behavior intended to prevent weight gain (variance of 63% for perceived behavioral control). Payne et al. established that attitude, subjective norm and perceived behavioral control were predictive of intention to prevent weight gain, and reported a variance of 25% in this regard. Payne et al. established that attitude, subjective norm and perceived behavioral control were predicting intention towards prevention of weight gain, and explained 25% of the variance in intention. A previous study found that intention and perceived behavioral control were predicting behaviour and explained 56% of the variance in behaviour.¹⁹ In this study, explained variances were higher than variance in study of Payne at al. This study also examined the model’s applicability to account for the intention to behaviour towards intention of weight gain prevention.

The characteristics of the women in combination affected the behavioral attitudes, subjective norm and perceived behavioral control intention towards preventive behaviour of weight gain, while education

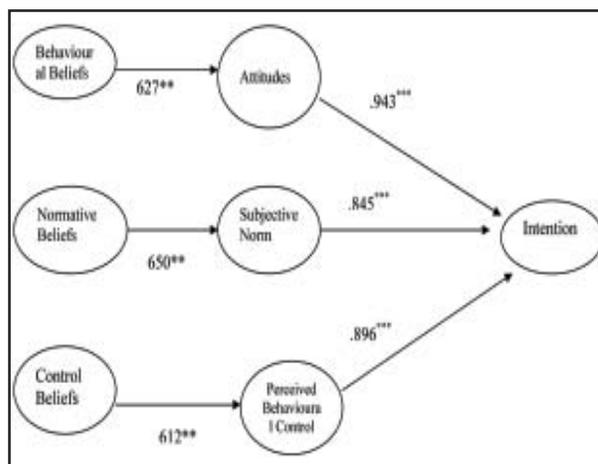


Figure-1: Significant path coefficients for the causal model based on the TPB.

level and health insurance were found highly effective on three component of the TPB. The characteristics of the sample group explained the behavioral attitudes with 58.5% of variance, subjective norms with 35% of variance, and perceived control beliefs with 34.2% of variance. The findings showed that the characteristics of the sample had impact on the TPB.

The education level and health insurance of the women had direct effect on behavioral attitudes towards intention of weight gain prevention. It may be explained that education level and health insurance were influential on attitudes of the TPB in respect of intention towards prevention of weight gain.

CONCLUSION

This theoretical model may lead to future studies. Another important aspect of the study is that women's intentions about developing behaviours towards prevention of weight gain were studied. It also had some limitations since non probability sampling method was used in this study, the findings can only be generalized for the sample group.

Finally, recognizing that these factors influence women's intent to prevent weight gain may aid in the development of appropriate health care interventions in this area. Findings from this study provide a basis for understanding this phenomenon and add to the

Table-I: Explanation of behavioural attitudes, subjective norms, and perceived behavioural control regarding intention to prevent weight gain utilizing path analysis.

<i>The Characteristics</i>	<i>Total Correlation</i>	<i>Path coefficient</i>	<i>Direct effect</i>	<i>Indirect effect</i>	<i>Contributing effect</i>
<i>Behavioural Attitudes</i>					
Age	0.02	-0.07	-0.07	-0.00	-0.05
Education Level	-0.25	-0.11	-0.30	0.08	-0.14
Occupation Status	-0.23	-0.10	-0.08	0.02	-0.13
Health insurance	0.39	0.46	0.33	0.13	0.07
Monthly Income	-0.06	-0.10	-0.09	0.01	-0.04
Number of Members in Family	0.03	-0.07	-0.05	-0.02	0.04
Number of Children in Family	0.08	-0.11	-0.06	-0.05	0.03
BMI	-0.01	-0.14	-0.13	0.01	-0.13
<i>Subjective Norms</i>					
Age	-0.01	-0.08	-0.08	0	-0.07
Education Level	-0.20	4.20	-0.20	4	4
Occupation Status	-0.14	-0.14	-0.12	0.02	0
Health insurance	0.07	0.32	0.30	0.02	0.25
Monthly Income	-0.00	-0.06	-0.06	0	-0.06
Number of Members in Family	0.05	-0.01	-0.01	-0.00	0.04
Number of Children in Family	0.10	0.01	0.01	0.00	0.09
BMI	0.04	-0.16	-0.16	-0.00	-0.12
<i>Perceived Behavioural Control</i>					
<i>The Characteristics</i>	<i>Total Correlation</i>	<i>Path coefficient</i>	<i>Direct effect</i>	<i>Indirect effect</i>	<i>Contributing effect</i>
Age	0.03	-0.05	-0.05	-0.00	-0.02
Education	-0.22	-0.26	-0.21	0.05	-0.04
Occupation	-0.16	-0.02	-0.02	0.00	-0.14
Health insurance	0.03	0.35	0.34	0.01	0.32
Income	-0.06	-0.04	-0.04	0.00	-0.02
Number of Members in Family	0.03	-0.03	-0.03	-0.00	-0.00
Number of Children in Family	0.06	-0.06	-0.06	-0.00	-0.00
BMI	0.03	-0.02	-0.02	-0.00	-0.01

scientific body of knowledge about cultural behaviours related to intent to prevent weight gain.

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