

Validation of the Theory of Planned Behavior an Intervention for Treat Depression Behavior

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Abstract

Theory of Planned Behavior (TPB) is one of the most widely used psychological models when it comes to interventions may usefully explaining and treat depression behavior. However, little is known about how acceptable patients find this approach. To address this, the present study interviewed recent users of a Theory of Planned Behavior (TPB) self-help. In-depth semi-structured interviews explored the experiences of thirty participants from a larger feasibility study. A stratified purposive sampling strategy selected participants with varying intervention experience according to their intervention logins, as well as varying age, gender and depressive symptoms.

Validation of Theory of Planned Behavior (TPB) is varied between participants. Those who found it more acceptable felt it was relevant to their depression and reported feeling empowered by a self-help approach. The Theory of Planned Behavior (TPB) intervention explaining and treat depression behavior is facilitated by a patients' preference. However, patients may also have distinct preferences for self-help. Future research should investigate the importance of the therapeutic orientation of Theory of Planned Behavior (TPB) a self-help interventions and whether patients' preferences for these can be reliably identified.

Keywords: Theory of Planned Behavior (TPB); Depression Behavior

Introduction

The Theory of Planned Behavior (TPB), an extension of the earlier Theory of Reasoned Action [1,2], has been used to understand the initiation and continued performance of a variety of health behaviors under volitional control [3,4]. As shown in figure 1, the TPB posits that the intention to engage in a specific behavior is a strong proximal indicator of the subsequent, actual performance of that behavior. This fundamental assumption has been supported across a broad range of studies of health behavior. For example, a review of the application of the TPB to health-related behaviors found the correlation between measures of intention and subsequent health behavior in 18 different studies ranged from 0.25 to 0.72 with a mean of 0.47 [5].

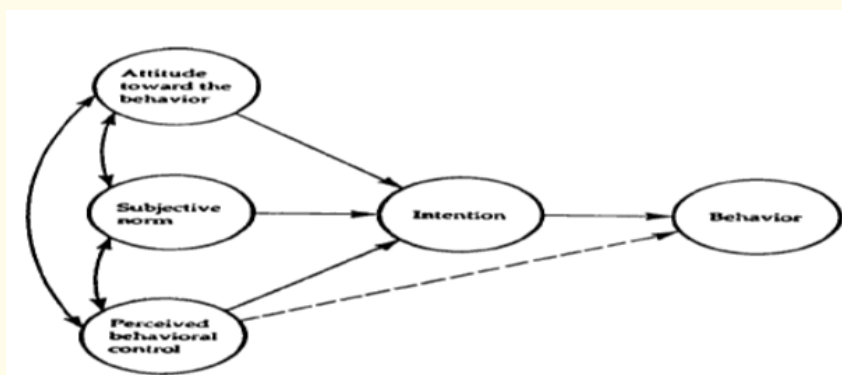


Figure 1: Schematic representation of the Theory of Planned Behavior (TPB).

The TPB has proven to be a useful framework for understanding initiation and maintenance of a variety of behaviors related to physical health, such as consumption of a healthy diet and participation in an exercise regimen (for reviews see [4,5]). The relationship between attitudes and risk behaviors continues to be a relevant topic of research in various health areas [7].

Depression is one of the most significant causes of emotional suffering in late life and may also be a contributing factor to the morbidity of many medical disorders [8].

Depression in older adults may be more persistent than depression earlier in life, often running a chronic, remitting course [9]. Clinical depression is not a part of normal aging but should be considered a treatable medical illness, although it certainly may be associated with problems of aging, such as loss, grief, and physical illness. The significance of late life depression is heightened by the fact that there are an increasing number of elders in the United States and many other countries [10,11]. However, depression is associated with reduced interest in previously enjoyable activities and deficits in motivation [12]. It has also been argued that for people experiencing psychosocial difficulties a focus on the positive might be exhausting and stressful [13] and May not help people cope with the real and complex issues they face [14].

This paper analyzes the role of (TPB) and explicit attitudes in treat depression behavior and is the first study in this field to integrate the contributions of both the more recent perspective on implicit attitudes and the classic TPB approach. The aim of this study was to explore the views of participants who had recently used a TPB approach intervention within a feasibility study, to address the research question: What is the acceptability of a Validation of the Theory of Planned Behavior an intervention for treat depression?

The Present Study

The TPB provides a useful framework for understanding post-diagnosis explaining and treat depression behavior would have distinct, clinical implications. Attitudes, norms, and perceived behavioral control are all characteristics of human behavior that are modifiable. Thus, similar to the use of the TPB for guiding the development and implementation of interventions to facilitate intervention for treat depression behavior:

The TPB could provide at least a partial blueprint for the development and implementation of interventions to facilitate post-diagnosis treat depression related to enhance mental. Specifically, the TPB would suggest interventions to enhance positive treat depression behavior be targeted toward identification of attitudes and perceptions of norms and perceived behavioral control relevant.

The present study is an initial test of the utility of the TPB for understanding intentions to engage in a variety of positive treat depression following post-diagnosis. Several specific hypotheses are advanced. In particular, it is hypothesized that stronger intentions to engage in a specific depression behavior will be positively associated with a more positive attitude regarding that behavior; a more positive subjective norm regarding that behavior; and a stronger belief in one's ability to engage in that specific behavior (i.e. perceived behavioral control).

Materials and Methods

Participants and procedures

Participants were sampled from a feasibility study evaluating the delivery of TPB intervention to patients self-identifying as depressed, participants had to: (a) be ≥ 18 years; (b) have a history of depression diagnosis and treatment; and (c) be able to read and write. Participants were recruited primarily from existing on depression information and support groups between January 2017 and April 2018. The coordinator of each on-line group was contacted for permission to contact group members. If permission was granted, all group members were sent an e-mail message containing a brief description of the study, an invitation to participate, and a link to a web-site containing the study survey. A survey was conducted to collect socio-descriptive (age, gender, educational level, and occupation).

Goldberg depression questionnaire

- **Demographic information:** Specific questions solicited information regarding a participant's age, gender, years of education, marital status, and race.
- **Clinical information:** Participants were asked their specific depression diagnosis, time since depression diagnosis, and stage of disease at diagnosis (local, regional, distant).

- **Current performance of depression behavior diagnosis and treatment:** Information regarding performance of treat depression behavior (eating a healthy diet, engaging in physical exercise) and four psychosocial health behaviors (reflecting on priorities in life, spending quality time with friends and loved ones, engaging in charitable or volunteer activities, spending time in religious or spiritual activities) was obtained using a similar set of questions. For each of these six behaviors, whether a respondent currently engaged in that behavior on a regular basis was assessed.
- **Behavior intentions:** Based upon general recommendations by TPB developers [15], a set of similar items was used to assess intentions to regularly engage in each of the six health behaviors examined. For example, intentions to regularly devote time to reflecting on priorities in life were assessed by two items 'During the next 30 days, I intend to regularly spend time reflecting on the priorities in my life' and 'During the next 4 months, I intend to regularly spend time reflecting on the priorities in my life'. Responses were recorded on 5 point Likert scales with endpoints labeled 'strongly disagree' and 'strongly agree'. Behavioral intentions for each of the remaining five health behaviors were assessed using similar procedures.
- **Behavior attitude:** Based upon general recommendations by TPB developers [15], attitude regarding regularly engaging in physical exercise was assessed by the item 'For me, regularly engaging in physical exercise would be...'. Responses were recorded on two, 5-point Likert scales. One scale was anchored by the endpoints 'positive' at one end and 'negative' at the other. The other scale was anchored by the endpoints, 'unpleasant' at one end and 'pleasant' at the other. Attitudes regarding each of the remaining five health behaviors were assessed using similar procedures.
- **Perceived behavioral control:** Based upon general recommendations by TPB developers [15], perceived behavioral control regarding the ability to regularly eat a healthy diet was assessed by the item 'If I wanted, I could regularly eat a healthy diet'. Responses were recorded on a 5-point Likert scale with one endpoint labeled 'Strongly Disagree' and the other endpoint labeled 'Strongly Agree'. A second item assessing perceived behavioral control regarding eating a healthy diet was 'For me, regularly eating a healthy diet would be...' with responses recorded on a 5-point Likert scale with one endpoint labeled 'Very Difficult' and the other endpoint labeled 'Very Easy'. Perceived behavioral control for each of the remaining five health behaviors was assessed using similar procedures.
- **Subjective norm:** Based upon general recommendations by TPB developers [15], subjective norm regarding regularly spending quality time with family/friends was assessed by the item 'Most of the people who are important to me would recommend that I regularly spend 'quality time' with friends and loved ones'. Responses were recorded on a 5-point Likert scale with one endpoint labeled 'strongly disagree' and the other endpoint labeled 'strongly agree'. Subjective norms for each of the remaining five health behaviors were assessed using similar items.

Analysis

Statistical analyses were performed using the SPSS 20. The criterion for statistical significance for all analyses was set at $p \leq 0.05$ unless otherwise indicated. Similar to prior research [16,17], a composite behavior intention score was created for each of the six health behaviors by calculating the mean of the two behavior intention items for each health behavior (range 1 - 5). An identical approach was used to create separate composite behavior attitude and perceived behavioral control scores for each health behavior. Higher composite scores reflect stronger intentions to engage in a health behavior in the future, more positive attitudes toward a health behavior, and stronger perceptions of behavioral control regarding a health behavior, respectively. Coefficient alphas for each of the three composite indices for each of the six health behaviors examined are shown in table 1. All coefficient alphas exceeded 0.65.

The validation of the TPB to account for intentions to engage in explaining and treat depression behavior following depression diagnosis, a set of six hierarchical multiple regression analyses was performed. A separate regression analysis was conducted for each of the six health behaviors. The dependent variable in the regression analysis was the composite behavior intention score for that specific health behavior. In all six regression analyses, an identical set of 10 predictor variables was used. A set of 7 demographic and clinical variables was first entered into each regression analysis. Demographic variables included age, gender, years of education, and marital status. Clinical variables included disease stage at depression diagnosis and time since diagnosis.

Variable	Mean	S.D.	Alpha
Eating a healthy diet (N = 68)			
Subjective norm	3.3	1.0	-
Perceived behavioral control	4.5	1.0	0.77
Attitude	4.2	1.0	0.83
Intention	3.5	1.0	0.68
Engaging in physical exercise (N = 78)			
Subjective norm	4.3	1.0	-
Perceived behavioral control	3.5	1.0	0.67
Attitude	3.2	1.0	0.73
Intention	3.0	1.0	0.88
Reflecting on life priorities (N = 58)			
Subjective norm	4.3	1.0	-
Perceived behavioral control	3.5	1.0	0.87
Attitude	4.2	1.0	0.63
Intention	4.5	1.0	0.78
Spending quality time W/family, friends (N = 38)			
Subjective norm	4.3	1.0	-
Perceived behavioral control	3.5	1.0	0.77
Attitude	4.2	1.0	0.63
Intention	4.5	1.0	0.78
Engaging in charity and volunteer activities (N = 88)			
Subjective norm	4.6	1.0	-
Perceived behavioral control	3.2	1.0	0.67
Attitude	4.2	1.0	0.93
Intention	4.5	1.0	0.78
Engaging in religious and spiritual activities (N =65)			
Subjective norm	3.6	1.0	-
Perceived behavioral control	3.5	1.0	0.87
Attitude	4.3	1.0	0.93
Intention	3.5	1.0	0.78

Table 1: Mean, standard deviation, and range for behavioral intention and TPB variables.

Note: All values based on subgroup of respondents reporting they do not currently engage in a specific health behavior or, if currently engaged, have only been doing so for < 4 months.

At the second step in the regression analysis, the three TPB variables for that health behavior were entered (subjective norm, composite perceived behavioral control, composite behavior attitude). Respondents included in the regression analysis for each of the six health behaviors consisted only of those respondents who indicated they were not currently regularly engaging in that specific health behavior as well as those who acknowledged that they were currently regularly engaging in that health behavior, but had only begun doing so within the past 4 months.

Results

Thus the sample size for the six regression analyses ranged from 28 (spending quality time with friends/family) to 90 participants (engaging in charitable activities) (See table 2). Prior research indicates mean R² values for predicting behavior intentions from the TPB constructs of attitude, perceived norm and perceived behavioral control are in the 0.40 to 0.50 range [18]. This translates into a ‘large’ effect size using [19] criteria. Using a large effect size (i.e. f² = 0:35) in [19] formula for determining an adequate sample size for multiple regression analysis with 10 independent variables, a sample size ≥ 32 is considered adequate. Because of significant negative skew in the four TPB-related variables (behavior intention and attitude, perceived norm and behavioral control), these variables underwent a square root transformation prior to use in the regression analyses.

Behavior	Current, regular Performance?		Duration of performance < 4 months? a		No current Performance or performance <4 months?	
	# Yes (%)b	# No	# Yes (%)c	# No	#	(%)b
Eating a healthy diet	80 (62)	49	9 (11)	71	58	(45)
Physical exercise	66 (63)	63	19 (29)	47	82	(64)
Reflecting on life priorities	113 (87)	17	23 (20)	90	40	(31)
Quality time W/family and friends	108 (83)	22	6 (6)	102	28	(22)
Charitable or volunteer activities	46 (35)	84	6 (13)	40	90	(69)
Religious or spiritual activities	73 (57)	56	4 (6)	69	60	(47)

Table 2: Current and recent performance of physical and psychosocial health behaviors.

^a: Question asked only of respondents acknowledging current, regular performance of that health behavior.

^b: Percentage of total number of respondents for that question (i.e. either 129 or 130).

^c: Percentage of those answering ‘yes’ to current, regular performance of that behavior.

Of the 200 adult respondents with complete survey data, the 120 respondents < 3 years post-depression diagnosis were included in the final study sample. This was done to produce a final study sample comprising individuals for whom the experience of depression diagnosis and treatment was relatively recent. Thus, consistent with the view of depression diagnosis as a ‘teachable moment,’ their depression diagnosis was more likely to be a relatively salient factor affecting their recent and current attitudes, intentions, and behavior. The final study sample (n = 120) was primarily female (61%), married or partnered (78%). Participants reported a mean age of 32.4 years (S.D. = 11:8; range = 25 - 75) and a mean of 13.4 years of education (S.D. = 3:1; range = 8-28).

The proportion of respondents currently, regularly engaging in each of the six health behaviors ranged from 35% (engaging in charitable or volunteer activities) to 87% (reflecting upon life priorities) of the entire sample (See table 2). The proportion of respondents in the final study sample not reporting current, regular performance of a behavior or engaging in that behavior for less than 6 months ranged from 22% (spending quality time with family/friends) to 69% (engaging in charitable or volunteer activities). Table 1 displays means and standard deviations (S.D.) for the four TPB-related constructs (behavior intention and attitude, perceived norm and behavioral control) for the six health behaviors for those respondents not currently performing a specific behavior or reporting performance of that behavior for less than 4 months.

Discussion and Conclusion

Conclusion should results provided strong support for our general thesis that the TPB-related constructs of behavior attitude, perceived social norm and perceived behavioral control would be positively associated with intentions to engage in a variety of physical and psychosocial behaviors generally associated with positive physical and mental health outcomes. For each of the six health behaviors examined, the increment in variance in behavioral intentions accounted for by the set of three TPB variables was both statistically significant and substantial, the five of six behaviors examined (spending quality time with family/friends the lone exception) the increment in variance in behavioral intentions accounted for exceeded, often considerably, the variance accounted for by the set of seven demographic and clinical variables.

Results of this study also provided support for our specific hypotheses regarding the relationship between specific TPB variables and intentions to engage in the six physical and psychosocial health behaviors examined. Behavior attitude was a significant predictor of intentions to engage in five of the six behaviors examined. The corresponding squared semi-partial correlation coefficient for these five behaviors, an index of the proportion of variance in behavior intentions uniquely associated with the behavior attitude variable.

In general, our data confirm the utility of the TPB for understanding intentions to engage in 'classic' health behaviors, here specifically, eating a healthy diet and engaging in regular physical exercise, linked to physical health status [5,20,21]. Additionally, and perhaps more importantly, the data extend prior research by suggesting the utility of the TPB for understanding intentions to engage in a variety of positive psychosocial health behaviors potentially linked to positive mental health outcomes in cancer patients and survivors. While we focused on intentions to engage in four specific positive psychosocial behaviors often reported after depression diagnosis and treatment, we see no reason to expect our results would not generalize reasonably well to other positive psychosocial behaviors that might be triggered by a depression diagnosis. Obviously, however, that is an empirical question that remains to be addressed by future research.

The TPB appears to have potential as a useful framework for understanding behavioral responses to depression diagnosis and treatment, it must be recognized that behavior attitudes, perceived social norms, and perceived behavioral control are not the sole determinants of depression patients (and presumably subsequent performance) regarding the set of health behaviors examined here. Clearly other psychological (e.g. dispositional optimism) or social (e.g. social support) variables exert an impact and should be considered for inclusion in building a broader, more comprehensive model for understanding initiation and maintenance of positive health behaviors in depression patients. In conclusion, acceptance of the basic premise that validation of the Theory of Planned Behavior an intervention for treat depression behavior an positive mental health outcomes reported by depression patients, such as 'benefit-finding' and 'growth', are fundamentally based upon changes in specific psychosocial behaviors suggests several new paths for future research. Specifically, acceptance of this premise would suggest application of existing models of health behavior maintenance and change could lead to theoretical and clinical advances in understanding and enhancing these positive mental health outcomes in depression patients.

The present study examined the utility of one of these models, the TPB, for understanding intentions to engage in a set of physical and psychosocial health behaviors following depression diagnosis. The results are promising; our intent is not to suggest that the TPB is the best theoretical model for understanding positive physical and psychosocial health behaviors in depression patients. The potential value of the TPB here, future research should similarly examine the relative utility of other well-known models of health behavior, such as the Health Belief [22,23] or Transtheoretical Models [24], for understanding and ultimately increasing positive physical and psychosocial health behaviors in depression patients.

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