The Good, the Bad, and the Contingency:

How Patients' Treatment Verification Behaviors Are Linked to Doctors' Reactions

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Abstract

Objective: This article introduces *Treatment Verification Behavior* (TVB) to conceptualize patient proactivity. The article also aims to examine doctors' responses to patients' TVBs.

Methods: A doctor-patient paired, two-wave data set was collected from eight hospitals in North China. We collected data from 304 doctor-patient dyads with each doctor rating, on average, three inpatients.

Results: The results show that when patients consulted their doctors about information regarding a diagnosis or treatment (i.e., *consulting TVB*), it improved doctors' perception of the patients' ability, which further increased doctors' work engagement. Alternatively, when patients challenged doctors about information regarding a diagnosis or treatment (i.e., *challenging TVB*), it induced doctors' perception of threat but without significantly decreasing doctors' work engagement. In addition, when doctors felt respected by patients, this feeling moderated the effects of patients' TVBs on doctors' reactions.

Conclusion: Both the content (the "what") and the manner (the "how") of patients' proactive communications with their doctors will influence doctors' responses.

Practice implications: These insights suggest that patient and doctor communication training should include components that address both the content and performance of communication.

Keywords: treatment verification behaviors; patient proactivity; doctor engagement

1. Introduction

The communication between patients and doctors is a pivotal component of health care delivery [1]. Importantly, a substantial body of research has found that when patients take a more proactive role in this communication, they are more likely to experience improved quality of doctor-patient communication [2], greater access to more information from doctors [3], higher satisfaction [4-6], and better health outcomes [7, 8]. Patient proactivity may also influence doctors' responses in several ways. In a positive sense, doctors can gain a more accurate understanding of patients' health beliefs, values, and preferences [9]; provide more information to proactive patients [3]; and conduct a more patient-centred interaction [10]. At the same time, however, some studies suggest the patient proactivity can induce negative reactions from doctors [11-14]. For example, doctors might experience anxiety [15] or feel threatened [16] in response to patients presenting information from the Internet during their consultation. Although the factors that may influence these different responses to patient proactivity (e.g., doctors' personal characteristics [17], patients' health literacy, the relevance of the online information, and communicative efficacy [18]) are not entirely unresearched, the underlying mechanisms at play still require a systematic and deep investigation [18].

Accordingly, the current research aims to investigate doctors' responses to patient proactivity, with three main goals. First, while researchers have paid significant attention to patient proactivity in the context of doctor-patient communication [3, 19], the construct of patient proactivity remains vague and deserves a more fine-tuned conceptualization. Therefore, we focus on patients' *treatment verification behavior* (TVB), referring to patients' proactive efforts to verify the treatment-related information provided by their doctors with information obtained from other sources, including information related to diagnosis or treatment [3, 9, 20]. We argue that the conflicting findings of previous research might be tied

to the possibility that patients enact more than one type of proactive behavior. We therefore differentiate TVB into two dimensions: (1) *consulting TVB*, when patients consult their doctors about relevant information regarding a particular diagnosis or treatment, and (2) *challenging TVB*, when patients challenge or question doctors about information regarding a particular diagnosis or treatment. This conceptual classification helps us to explain why patient proactivity can lead to different doctor responses.

Second, we aim to improve our understanding of doctor responses to patient TVBs from a dyadic perspective. Doctor-patient communication processes are dyadic and interactive [21]. Thus, we use a systematic perspective of communication to investigate how doctors respond to their patients' TVBs. Our third aim is to explore whether doctors' feelings of being respected by the patient (referred to hereafter as "doctor felt respect") serve as a boundary condition. This demonstrates the importance of *how* patients communicate as well as what they communicate.

1.1 Treatment Verification Behaviors: Construct Development

Despite its significance in doctor-patient communication, the concept of patient proactivity in the existing literature lacks conceptual and operational clarity. Street and Millay [8] developed a coding procedure to measure active participation by patients in communication, including "asking questions," "expressions of concern," and "assertive responses." Cegala and colleagues [3, 20] also developed a coding system to capture active patient participation in communication with four components (information seeking, assertive utterances, information provision, and expression of concern). However, both methods require that each conversation between a patient and doctor be recorded and coded, which is extremely time- and effort-consuming. Xiang and Stanley [22] used a four-item scale to measure patient involvement in communication, but this scale only focuses on information

4

seeking from doctors. In an attempt to capture patients' active participation during communication, other researchers have looked at patients who bring information from the Internet to their doctors [11, 13, 16]; however, this approach oversimplified patient proactivity in the communication process because not all Internet-informed patients are proactive [23].

In light these difficulties in previous research, we propose that we must develop a more thorough and comprehensive conceptualization and measurement of patient proactivity in doctor-patient communication. Hence, we introduce the concept of TVB. TVB not only captures patient proactivity during communication with doctors in a more systematic way, but also helps us to understand why doctors respond differently to different instances of patient proactivity. As outlined above, the two dimensions of TVB—consulting and challenging—emphasize different aspects of the concept. When patients enact *consulting TVB*, they ask for answers from doctors; when they enact *challenging TVB*, patients question and challenge doctors' decisions. Yet, these two dimensions of TVB share two common characteristics. The first is proactivity, in that patients enacting both types of TVB proactively involve themselves in the communication process with doctors to verify relevant information. The second characteristic is technicality, in that patients verify technical information about their diseases through discussions with doctors regarding diagnosis, treatment, and other technical details.

1.2 Treatment Verification Behaviors and Doctor Perceptions

We posit that consulting TVB and challenging TVB result in diverse doctor perceptions. Drawing from social judgment theory, which suggests that people judge a target's warmth and competence [24], we choose doctors' perception of patients' ability (a proxy for competence) and perception of threat (a proxy for warmth) as doctors' responses to

5

patients' consulting TVB and challenging TVB. Specifically, we propose that consulting TVB is positively related to doctors' perception of patients' ability. The perception of another's ability is often based on superficial cues, for example, expressing one's opinions more frequently [25]. If the patient shows more consulting TVB, it signals to the doctor that the patient has the ability to gather information from other sources.

We also propose that challenging TVB is positively related to doctors' perception of threat. Challenging TVB is a more aggressive form of communication in which patients question doctors' decisions on diagnosis and treatment. Doing so signals to doctors that the patient is challenging their authority and doubting their ability to make the right decision. For instance, when patients challenge their doctors' advice with Internet-sourced information, the doctors can interpret this as a threat to their medical expertise [11].

Hypothesis 1. Consulting TVB is positively related to doctor perception of patient ability.

Hypothesis 2. Challenging TVB is positively related to doctor perception of threat.

1.3 The Role of Felt Respect

Although the content of the doctor-patient communication is a key factor in predicting doctor response, the manner in which patients enact TVB is also important. We use *doctor felt respect* to capture how doctors perceive patients' TVB conduct. When a speaker is rude and disrespectful, the recipient is likely to infer negative intentions or a motivation to harm [26, 27]. Hence, when a patient enacts consulting TVB (and not challenging TVB) but in a very disrespectful way, it will lead to a negative response—that is, the doctor will perceive a threat. For example, researchers found that when patients use an assertive strategy to introduce information from the Internet, doctors tend to feel threatened [13, 14].

Similarly, if enacted with a rude or disrespectful manner, challenging TVB will also influence a doctor's perception of a patient's ability. Research shows that individuals tend to devalue transgressors' competence as a self-protective response, meaning that when people are insulted by others, they will view those others as less competent [28]. In other words, when patients disrespectfully challenge doctors during their communication, the doctors will devalue the patients' ability.

Hypothesis 3. The relationship between consulting TVB and perception of threat is moderated by the degree of doctor felt respect, where the relationship between consulting TVB and perception of threat is more positive as a doctor's level of felt respect decreases.

Hypothesis 4. The relationship between challenging TVB and perception of ability is moderated by the degree of doctor felt respect, where the relationship between challenging TVB and perception of patient ability is more negative as a doctor's level of felt respect decreases.

1.4 Doctor Perception and Work Engagement

Doctor perception will inevitably influence how the patient is treated. We chose work engagement as consequences because it indicates the investment of doctors' physical, cognitive, and emotional energies into the various activities during the treatment [29]. Work engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption [30]. We propose that doctors' work engagement will be higher when they believe the patient has a higher level of ability. Patient knowledge and ability can increase the treatment effect [31]. Doctors will expect a more positive treatment outcome when they perceive a higher level of patient ability, which will improve their work engagement [32].

We further propose that doctors' work engagement will be lower when they perceive a threat. A doctor who perceives a threat will have a defensive response [27], including, possibly, avoidance of interaction with the patient. Moreover, if the doctor feels challenged by the patient, their relationship will deteriorate [33], also reducing the doctor's work engagement with the treatment.

Hypothesis 5. Doctor perception of a patient's ability is positively related to the doctor's work engagement.

Hypothesis 6. Doctor perception of threat is negatively related to the doctor's work engagement.

2. Methods

2.1 Participants and Procedures

Participants for our study were recruited from eight hospitals located in North China. We randomly invited 10-15 doctors from every inpatient department of these hospitals. For each doctor, we then randomly invited three inpatients who had at least three days of hospitalization. Finally, we collected data from 304 doctor-patient dyads with each doctor rating, on average, three inpatients (in one case a doctor rated four inpatients). The average age of the doctors was 34.38 years old ($SD = 4.69$), 63.5% were male, and the average tenure was 7.66 years ($SD = 5.13$). The average age of the patients was 57 years old ($SD = 16.03$), and 50.7% were male.

We collected data in two waves and in a dyadic format. The first wave of data collection was on the first day of an inpatient's hospitalization. We asked the doctors to rate inpatients' TVB and their own felt respect. The second wave of data collection was on the

third day of an inpatient's hospitalization. We asked the doctors to rate their perception of the inpatients' ability and their own felt threat. We also asked the inpatients to rate the doctor's work engagement with the treatment.

2.2 Measurement

Treatment verification behaviors. There is no existing measure for TVB so we developed our measure via the three following steps.

Step 1: Interview to form an item pool. We recruited 54 doctors from five hospitals in North China and conducted semi-structured interviews. After coding the results of the interviews, we obtained 786 different items of TVBs in this step.

Step 2: Shorten the list of items. First, we shortened the number of items from 786 to 96 by merging items with the same or similar meaning and repetitive statements. Next, we invited an expert to again shorten the number of items from 96 to 14. In this step, we further combined items into broader, conceptually meaningful dimensions. We also dropped items that had very low frequency or were irrelevant to the TVBs. We then recruited three doctoral students to serve as test judges and familiarized them with the definition of each dimension of the TVBs. After the training, these students worked independently to classify the 14 items into two categories. Then they reviewed one another's results, held discussions, and reached a consensus. The results show that the items were classified exactly as the researchers had intended, that is, into two dimensions of TVBs.

Step 3: Conduct a pilot study for exploratory factor analysis (EFA). We shifted the referent to collecting data from 151 inpatients from 15 hospitals located in North China by asking them to report their own TVBs using the 14-item measurement. We conducted the EFA and the results showed two factors, which we then named "consulting TVB" and "challenging TVB," with loadings of all items above .70.

After completing all of these steps, we finalized our measure of TVBs. The measure includes two dimensions, consulting TVB and challenging TVB. The consulting TVB dimension has 10 items. A sample item is "He/she consulted me about medical information found on the Internet" (Cronbach's α = .97; please see the Appendix for a complete list of the variables in this study).[1] The challenging TVB dimension has four items. A sample item is "He/she questioned my diagnosis" (Cronbach's α = .93). We asked doctors to report every inpatient TVB during their communication with the inpatient. Unless otherwise stated, all measures reported in this study were measured using a seven-point Likert scale (1 = "*totally disagree*" to 7 = "*totally agree*").

Felt respect. We developed a five-item scale that we used to ask doctors to report felt respect from every inpatient. A sample item is "He/she respected me" (Cronbach's α = .68).

Perception of patients' ability. We developed and used a six-item perception of patients' ability scale. We asked the doctors to report their perception of every inpatient's ability. A sample item is "He/she possessed much medical knowledge" (Cronbach's α = .88).

Perception of threat. We developed a five-item perception of threat scale that we used to ask doctors to report their perception of threat for every inpatient. A sample item is "He/she intentionally challenged my authority" (Cronbach's α = .94).

Work engagement. We used a 10-item scale adapted from the work engagement scale developed by Rich, Lepine and Crawford [34]. We asked the inpatients to use this scale to report their perception of their doctors' engagement in their treatment. A sample item is "He/she tried his/her hardest to treat me" (Cronbach's α = .92).

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[1] Note that all questions were posed in Chinese. Those that appear in this paper are our translations.

Demographic characteristic. We asked the doctors to report their age, gender (0 = female; 1 = male), education level (1 = middle school to 6 = doctorate), and career stage (1 = medical assistant to 5 = chief physician). We asked the inpatients to report their age, gender (0 = female; 1 = male), and education level (1 = primary school to 8 = doctorate). The demographic characteristics were controlled in the analyses to reduce confounding effects.

2.3 Statistical Analyses

We first conducted the confirmatory factor analyses (CFAs) to confirm the discriminant validity of our measure. Next, we analyzed the data using multilevel modeling of path analyses in Mplus 8.0 to account for the nested structure of the data since we asked one doctor to rate three inpatients. Perception of patient ability and perception of threat was first regressed onto consulting TVB, challenging TVB, felt respect, and the interaction terms. We used simple slopes analysis to probe the interaction effect. Then work engagement was regressed onto all the predictors.

3. Results

3.1 Descriptive Statistics and Confirmatory Factor Analyses

The results of the CFAs show that the six-factor model fit the data well ($\chi 2$ = 1764.85, df = 678, root-mean-square error of approximation (RMSEA) = .07, comparative fit index (CFI) = .92, Tucker-Lewis index (TLI) = .91, standardized root-mean square residual (SRMR) = .05). Indeed, this model fit the data better than the one-factor model (χ^2 = 11115.98, df = 740, RMSEA = .22, CFI = .26, TLI = .22, SRMR = .22). These results suggested discriminant validity for these variables. The means, standard deviations, and correlations among variables are shown in Table 1.

Insert Table 1 about here

3.2 Hypotheses Testing

As we asked three patients to rate each doctor's work engagement, we calculated ICC1 to measure the amount of work engagement variance attributable to group membership. ICC1 of work engagement is .32, which showed that there was between-level variance, thus supporting the nested nature of the data. As a result, multilevel analyses were needed, even though our interest is in individual phenomena.

Table 2 contains the regression results. The results show that increased patient consulting TVB had a positive effect on doctor perception of patient ability ($b = .17$, $p = .029$), so Hypothesis 1 was supported. Patient challenging TVB had a positive effect on doctor perception of threat ($b = .16$, $p = .034$), so Hypothesis 2 was supported.

Insert Table 2 about here

Felt respect moderated the relationship between consulting TVB and perception of threat ($b = -.23$, $p = .005$). When doctors felt a low level of respect (-1 SD), the relationship between consulting TVB and perception of threat was positive ($b = .12$, $p = .031$). However, when the doctors felt a high level of respect (+1 SD), the relationship between consulting TVB and perception of threat was no longer significant ($b = -.06$, $p = .257$). This pattern of effects is depicted in Figure 1. The results provided support for Hypothesis 3.

Felt respect also marginally moderated the relationship between challenging TVB and perception of patient ability ($b = .21$, p = .087). When doctors felt a low level of respect (-1 SD), the relationship between challenging TVB and perception of patient ability was negative ($b = -.15$, $p = .033$). In contrast, when the doctors felt a high level of respect (+1 SD), the relationship between challenging TVB and perception of patient ability became insignificant

($b = .02$, $p = .852$). This pattern of effects is depicted in Figure 2. The results provided

support for Hypothesis 4.

Insert Figure 1 and Figure 2 about here

The results also showed that the perception of patient ability had a positive effect on

doctor work engagement with the treatment ($b = .12$, $p = .030$), so Hypothesis 5 was

supported. However, the perception of threat had no significant effect on doctor work

engagement in treatment ($b = -.09$, $p = .190$), although the coefficient was negative. Thus,

Hypothesis 5 was not supported. The framework and the path coefficients are shown in

Figure 3.

Insert Figure 3 about here
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4. Discussion and Conclusion

4.1 Discussion

The current study conceptualizes patient proactivity in doctor-patient communication

as TVB and develops a measurement for the practice. As noted above, previous research

observed conflicting findings with respect to patient proactivity, in that it sometimes resulted

in positive outcomes [6] but other times led to negative outcomes [3]. Our study proposes that

these conflicting findings may be reconciled by the different types of TVB that patients enact.

We find that doctors and patients have the potential to influence each other's cognition,

emotions, and behavior in a reciprocal way [21]—that is, patients are also responsible for

influencing the communication [5, 35]. In sum, these findings provide insight into how

doctor-patient relationships can be shaped by patients' proactivity and doctors' responses.

On the one hand, our findings show that doctors responded positively to consulting TVB, which might be consistent with previous literature suggesting that patient proactivity can lead to a more patient-centered relationship [23]. On the other hand, our findings show that doctors responded negatively to challenging TVB, which might be consistent with literature suggesting that patient proactivity can actually lead to a more doctor-centered relationship when doctors feel challenged or threatened [12, 16]. We also find that the degree to which doctors feel respected by patients can moderate the relationship between a patient's TVB and the doctor's response. Specifically, consulting TVB, in general, could lead a doctor to perceive a higher level of patient ability; yet, if the consulting TVB was conveyed in a disrespectful way, the doctor would also perceive a threat. Challenging TVB, in general, may lead a doctor to perceive a threat; and if it was conveyed in a disrespectful way, the doctor would perceive a lower level of patients' ability. In short, our results demonstrate that it is not just the communication content that influences a doctor's perceptions, but also how the communication is conveyed.

Although the results showed that doctors' perception of patient ability could improve their work engagement with the treatment, the relationship between perception of threat and work engagement was not significant, though still negative. One possible reason for this outcome is that doctors may feel there is no choice of whether or not to engage in treatment: even when doctors perceive a threat, their profession still obligates them to heal their patients [36].

This study has several theoretical implications. First, it develops a new construct that advances our understanding of patient proactivity in doctor-patient communication. Second, by using a dyadic perspective to understand doctor-patient communication, we focus on how patient proactivity leads to specific doctor responses, providing evidence that patients play an

important role in shaping doctor-patient interactions. Third, our study shows that both content and manner are crucial aspects of doctor-patient communication.

4.2 Limitations

The generalizability of our results is somewhat constrained by the fact that our study was only conducted in an Eastern culture. Cultural factors might significantly influence doctors' responses to patients' proactivity. For example, research has suggested that in Eastern cultures, a paternalistic doctor-patient relationship is still preferred [37]. Doctors who are]accustomed to paternal roles may have difficulty adjusting to patients' proactivity, which they may view as a challenge to their traditional medical authority [10]. Thus, it would be worthwhile to examine doctors' responses to patients' proactivity in Western cultures.

Second, we only investigated doctors' work engagement as the consequence. There might be other possible consequences for doctors' responses to patients' proactivity. Future research might benefit from an interpretative phenomenological analysis (IPA) study to investigate other possible consequences for doctors' responses.

Third, there are many factors might influence doctors' responses, for example, doctors' personal characteristics [17]. Future research could benefit from investigating more factors which influence doctors' responses to patients' proactivity.

4.3 Conclusion

The current study finds that what patients proactively communicate to their doctors and how they communicate it are both important conditions for predicting doctors' responses. While consulting TVBs lead to positive responses and challenging TVBs lead to negative responses, whether patients show respect to their doctor also influences the doctor's response.

4.4 Practice Implications

The results of this study have implications for communication skills training for both patients and doctors. From the patients' perspective, we highlight the value of understanding the different dimensions of TVB and how they can lead to different responses from doctors. Patient training should include components that address both the content and performance of communication. Studies have shown that modeling and practice or interactive CDs or web-based instructional programs can be effective intervention or training tools [38]. Such tools could facilitate patients taking a more proactive role in doctor-patient communication. From the doctors' perspective, our results suggest that doctors should be aware of patients' possible behavioral patterns and how these patterns might influence their own perceptions. This awareness could help them reduce or avoid adversarial doctor-patient relationships. Above all, in order to maximize doctor-patient communication and to build stronger doctor-patient relationships, patients must be very careful in communicating with doctors proactively and doctors must be very careful in interpreting their patients' behavior and intention as they communicate.

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Table 1. Means, Standard Deviation, and Correlations

		M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Doctor level																	
1	Age_doctor	34.38	4.69														
2	Gender_doctor	1.37	.48	-.12*													
3	Education_doctor	4.64	.56	-.06	.04												
4	Tenure_doctor	7.66	5.13	.67**	-.06	-.41**											
5	Career stage_doctor	2.76	.65	.74**	-.07	.03	.66**										
Patient level																	
6	Age_patient	57.00	16.03	-.08	.21**	-.09	-.04	-.15**									
7	Gender_patient	1.49	.50	-.04	.08	-.06	.00	-.02	.06								
8	Edu_patient	3.82	1.31	.02	.02	.05	-.02	.04	-.42**	-.06							
9	Consulting TVB_T1	4.22	1.53	.10	-.19**	.04	.03	.15*	-.13*	.06	.02	(.97)					
10	Challenging TVB_T1	2.90	1.39	-.05	-.02	-.05	-.05	-.05	-.05	.07	-.08	.33**	(.93)				
11	Felt resptect_T1	6.04	.67	-.03	-.04	-.10	.03	-.06	-.02	.05	.07	.08	-.22**	(.68)			
12	Perception of patients' ability_T2	2.91	1.13	.13*	-.08	-.02	.17**	.08	-.03	.04	.14*	.20**	.05	.11	(.88)		
13	Perception of threat T2	1.88	.90	.06	-.03	-.08	.12	.12*	.00	-.03	-.06	.01	.37**	-.45**	.16**	(.94)	
14	Work Engagement_T2	5.80	.67	.15**	.08	-.09	.13*	.07	-.10	-.07	.00	.08	-.05	.18**	.16**	-.18**	(.92)

Notes.

$N = 101$ doctors, 304 patients; *p* < .05; **p* < .01; Reliabilities are reported on the diagonal in italics;

Gender_doctor: 1 = male, 2 = female; Education_doctor: 1 = middle school to 6 = doctorate; Career stage_doctor: 1 = medical assistant to 5 = chief physician;

Gender_patient: 1 = male, 2 = female; Education_patient: 1 = primary school to 8 = doctorate;

T1: The first day of patients on hospitalization；T2: The third day of patients on hospitalization;

Table 2. Regression Analyses Results

Predictors	Within level regression coefficients		
	Perception of patients' ability	Perception of threat	Work Engagement
Consulting TVBs	.17* (.08)	.03 (.05)	.02 (.04)
Challenging TVBs	-.07 (.07)	.16* (.08)	-.05 (.04)
Felt Respect	.25† (.14)	-.19 (.13)	-.07 (.11)
Consulting TVBs × Felt respect	-.05 (.09)	-.23** (.08)	-.09 (.12)
Challenging TVBs × Felt respect	.21† (.12)	.07 (.17)	.16 (.12)
Perception of patients' ability			.12* (.06)
Perception of threat			-.09 (.07)

Notes.
$N = 101$ doctors, 304 patients; † $p < .10$, * $p < .05$, ** $p < .01$;
Numbers in the parentheses are the standard error (SE).

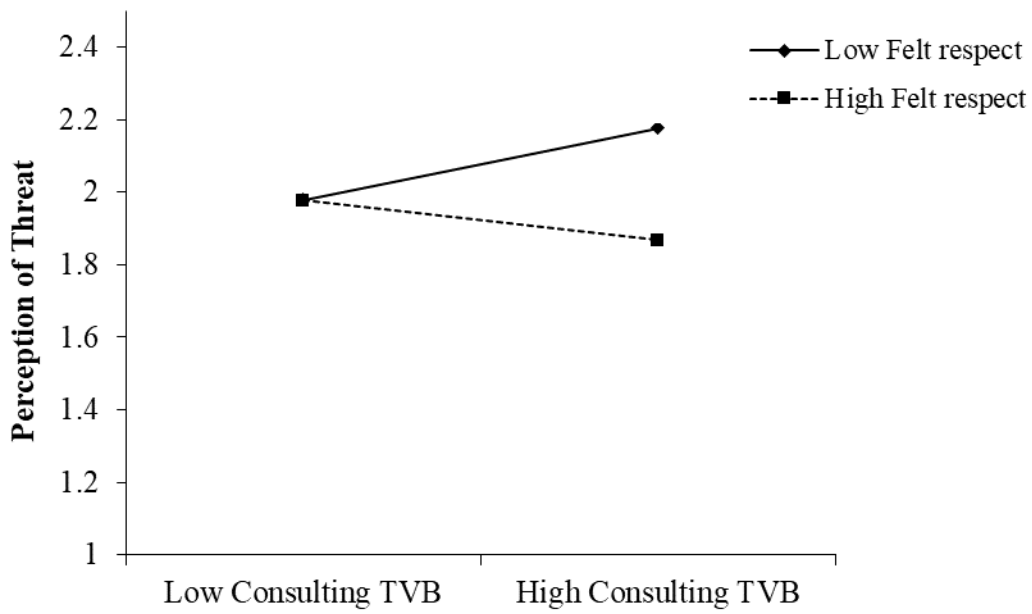**Figure 1.** The interactive effect of consulting TVBs and felt respect on perception of threat

Figure 2. The interactive effect of challenging TVBs and felt respect on perception of patients' ability
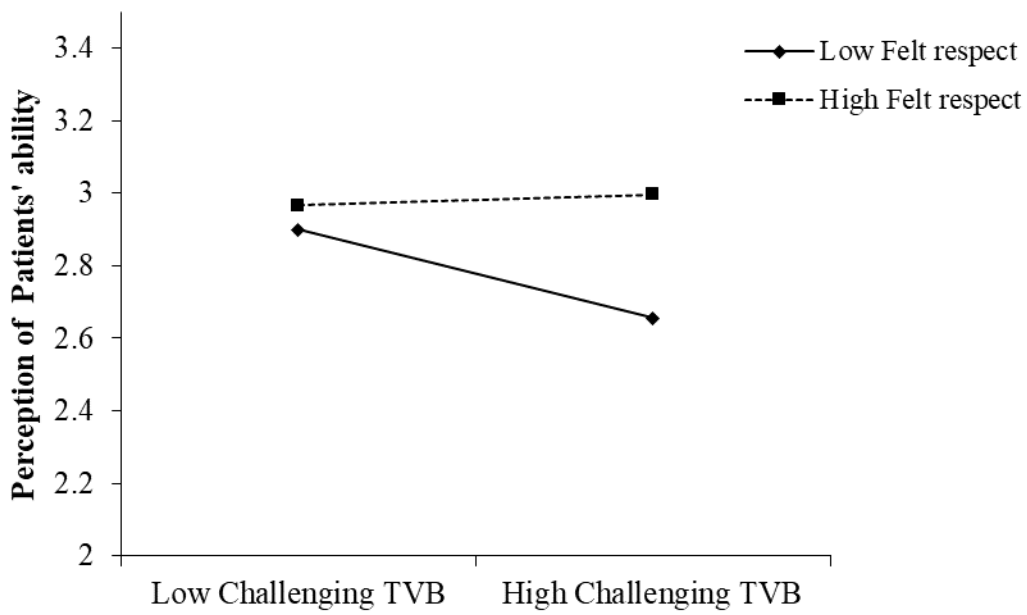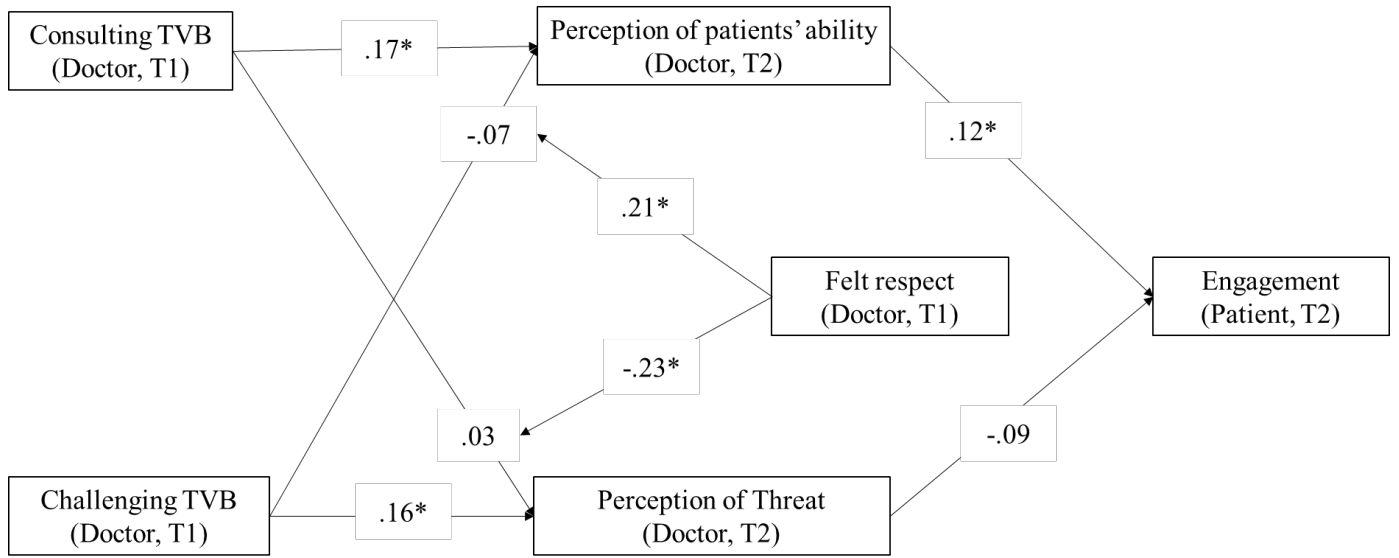
Figure 3. Theoretical Model and Results of Hypotheses

Consulting TVB (Doctor, T1)	.17*	Perception of patients' ability (Doctor, T2)
	-.07	.12*
	.21*	Felt respect (Doctor, T1)
	-.23*	Engagement (Patient, T2)
	.03	
Challenging TVB (Doctor, T1)	.16*	Perception of Threat (Doctor, T2)
	-.09	

Appendix.

All measures used in the study

Consulting TVB

1. He/She consulted me about medical information found on the Internet
2. He/She consulted me about treatment suggestions found on the Internet
3. He/She consulted me about medical information he/she learned about on television.
4. He/She consulted me about treatment suggestion he/she learned about on television.
5. He/She consulted me about medical information he/she read about in books and magazines.
6. He/She consulted me about treatment suggestion he/she read about in books and magazines.
7. He/She consulted me about medical information learned from other doctors.
8. He/She consulted me about treatment suggestion learned from other doctors.
9. He/She consulted me about medical information learned from relatives or friends.
10. He/She consulted me about treatment suggestion learned from relatives or friends.

Challenging TVB

1. He/She questioned my diagnosis;
2. He/She questioned my treatment plan;
3. He/She questioned my use of medicine;
4. He/She questioned my suggestion of physical examinations.

Felt respect

1. He/She respected me.
2. He/She was very respectful of me.
3. He/She communicated with me with a respectful attitude.
4. He/She did not respect me.
5. He/She was rude to me.

Perception of patients' ability

1. He/She possessed a good deal of medical knowledge.
2. What he/she knew about medicine is professional.
3. He/She had a lot of experience in how to treat his/her diseases.
4. He/She had a lot of knowledge about how to treat his/her diseases.
5. He/She had a good understanding of his/her diseases.
6. He/She had the ability to be involved in the treatment decisions.

Perception of threat

1. He/She challenged my authority intentionally.
2. During my interaction with him/her, I felt my authority as a doctor was threatened.
3. During my interaction with him/her, I felt my authority as a doctor was challenged.
4. During my interaction with him/her, I felt my status as a doctor was threatened.
5. During my interaction with him/her, I felt my status as a doctor was challenged.

Work engagement

1. He/She worked with intensity on my treatment.
2. He/She tried his/her hardest to treat me.
3. He/She exerted a lot of energy treating me.
4. He/She tried as hard as he/she could to treat me.
5. He/She was enthusiastic when he/she was treating me.

6. He/She was positive when he/she was treating me.
7. He/She was energetic when he/she was treating me.
8. His/Her mind focused on the treatment when he/she was with me.
9. He/She paid a lot of attention to the treatment when he/she was with me.
10. He/She concentrated on the treatment when he/she was with me.