Why Are Maximizing Patients More Vigilant Toward Physicians? The Mediating Role of Moral Disengagement

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Abstract

Patients' prevalent vigilant mentality can easily induce negative behaviors, posing a potential threat to the doctor-patient relationship. Based on a doctor-patient interaction perspective, this study investigates the impact of maximization decision-making on patients' vigilant mentality and its underlying mechanisms. Three studies reveal that: (1) maximization decision-making significantly enhances patients' vigilance toward physicians' medical ethics and clinical competence; (2) moral disengagement mediates this relationship, whereby maximization decision-making strengthens patients' vigilance toward physicians by eliciting moral disengagement; and (3) physicians' friendly behavior moderates this effect, not only failing to alleviate maximizers' vigilance but further exacerbating it by strengthening moral disengagement. By introducing moral disengagement theory, this study constructs a psychological mechanism linking maximization decision-making and patients' vigilance toward physicians, thereby extending research on vigilance and interpersonal communication in maximization decision-making while providing novel insights for preventing and mitigating doctor-patient conflicts.

Full Text

Preamble

Why Are Maximizing Patients More Vigilant Toward Doctors? The Mediating Role of Moral Disengagement

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Abstract

The pervasive vigilance psychology among patients readily triggers negative behaviors, posing a potential threat to doctor-patient relationships. From an interactive perspective, this study investigates how maximizing decision-making influences patient vigilance and its underlying mechanisms. Three studies found that: (1) maximizing decision-making significantly enhances patient vigilance toward doctors' medical ethics and competence; (2) moral disengagement mediates this relationship, whereby maximizing decision-making strengthens vigilance by activating patients' moral disengagement; and (3) doctors' friendly behavior moderates this effect, paradoxically exacerbating maximizing patients' vigilance by intensifying moral disengagement rather than alleviating it. By introducing moral disengagement theory, this research constructs a psychological mechanism linking maximizing decision-making to patient vigilance, thereby expanding vigilance and maximizing research in interpersonal communication while offering novel insights for preventing and mitigating doctor-patient conflicts.

Keywords: patient vigilance toward doctors, maximizing, moral disengagement, doctor-patient interaction
Classification Code: B849: C91

1. Introduction

Dramatic social changes have intensified individuals' defensive psychology (Cheng et al., 2021), manifesting in doctor-patient relationships as declining trust and excessive vigilance (Lü et al., 2019). Research indicates that patient vigilance triggers dual stress responses: cognitively, it produces hostile attribution bias (Li et al., 2015; Liu et al., 2019), and physiologically, it manifests as high anxiety states (Kimble et al., 2014; Öhman & Mineka, 2001). Although this implicit psychological tension does not directly cause overt conflict, it continuously erodes relationship resilience and increases confrontation risks (Barsade, 2002), becoming a key psychological hazard for conflict escalation (Yan, 2018). Studies show that social environmental factors—such as low economic mobility (Zhao et al., 2023), economic inequality (Cheng et al., 2021), collectivist culture (Li et al., 2015; Liu et al., 2019)—and individual personality traits—including conscientiousness (Rose et al., 2002), avoidant attachment style (Tang et al., 2017), and high trait anxiety (Mogg & Bradley, 1998)—significantly influence vigilance. However, the mechanisms through which decision-making characteristics (e.g., maximizing) affect vigilance remain underexplored, particularly in doctor-patient interaction contexts. Theoretically, decision-making characteristics (e.g., analytical or intuitive thinking) significantly influence decision error rates (Kozhevnikov et al., 2014), while vigilance optimizes decisions by enhancing executive control and continuous environmental monitoring (Cohen et al., 1996; Pacheco-Unguetti et al., 2010). Practically, decision-making characteristics' impact on vigilance is widespread: overconfidence in organizational management reduces vigilance (Hayward & Hambrick, 1997), while differences in decision-making characteristics between

doctors and patients in shared decision-making (e.g., professional-oriented vs. value-oriented) may intensify conflict (Elwyn et al., 2012), thereby affecting patient vigilance levels. Therefore, investigating how decision-making characteristics shape vigilance holds important theoretical and practical significance.

Accordingly, this study examines maximizing decision-making—a classic and common decision-making characteristic in the decision-making domain (Schwartz et al., 2002; Cheek & Schwartz, 2016; Zhu & Xie, 2013)—and integrates moral disengagement theory to explore its impact on patient vigilance, the mediating role of moral disengagement, and the moderating effect of doctors' friendly behavior. By revealing the psychological mechanism through which maximizing decision-making influences patient vigilance, this research not only expands vigilance and maximizing decision-making research in interpersonal communication but also provides practical insights for resolving doctor-patient trust crises and preventing doctor-patient conflicts.

1.1 Patient Vigilance Toward Doctors

When organisms face survival threats, they activate adaptive vigilance mechanisms, manifesting as heightened threat sensitivity (MacDonald & Leary, 2005) and "fight-or-flight" instinctive responses (Cannon, 1932). Humans are sensitive not only to physical threats but also to social threats (e.g., rejection, stigmatization), which similarly trigger vigilance systems, leading to excessive hostile attribution and harm anticipation (Li et al., 2015; Liu et al., 2019). This vigilance pervades various social relationships (Cheng et al., 2021; Li et al., 2015; Liu et al., 2019), and doctor-patient interaction is no exception. In medical contexts, medical technical errors, professional ethics deficiencies, and related negative reports collectively shape patients' threat perception (Su et al., 2010; Shin & Niv, 2021). Research shows that patients often presuppose mistrust toward doctors (Wang et al., 2015), providing indirect evidence for their vigilance toward doctors.

Previous studies have found that individual vigilance is primarily influenced by social environmental factors: low economic mobility (Zhao et al., 2023) and economic inequality (Cheng et al., 2021) significantly increase vigilance; individuals in collectivist cultures more readily develop hostile expectations toward ingroup members (Liu et al., 2019) and close others (e.g., acquaintances, friends, relatives; Li et al., 2015). Meanwhile, individual characteristics such as conscientiousness (Rose et al., 2002), avoidant attachment style (Tang et al., 2017), and high trait anxiety (Mogg & Bradley, 1998) also exacerbate vigilance. However, existing research inadequately explores decision-making characteristics (e.g., maximizing) and the psychological formation mechanisms of vigilance. Therefore, this study examines how patients' maximizing decision-making enhances their vigilance toward doctors from a moral disengagement perspective.

1.2 Maximizing Decision-Making and Patient Vigilance Toward Doctors

Maximizing and satisficing decision-making originate from rational choice models in economics (von Neumann & Morgenstern, 1944) and bounded rationality models (Simon, 1955), describing two distinct decision-making strategies. Schwartz et al. (2002) subsequently proposed the concept of maximizing decision-making orientation. Individuals high in maximizing orientation are called maximizers, who tend to extensively search options and pursue optimal outcomes; those low in maximizing orientation are called satisficers, who stop searching once they encounter an acceptable option and settle for "good enough" results. Maximizing decision-making can be measured as a personality trait (e.g., Schwartz et al., 2002) or manipulated as a mindset (e.g., Ma & Roese, 2014).

According to preparedness theory of vigilance (Öhman & Mineka, 2001), individuals' vigilance is closely related to their ability to perceive potential environmental threats. The stronger the threat perception ability, the higher the vigilance exhibited (Lick et al., 2015). Research shows that individuals with stronger threat perception abilities typically exhibit the following characteristics: more frequent environmental scanning (Gomes & Semin, 2020), better threat information identification (Mogg & Bradley, 1998), allocation of more cognitive resources to process threat information (Chen et al., 2024), greater anxiety generation under potential threats (Kimble et al., 2014), and stronger physiological responses (Öhman & Mineka, 2001). Maximizing decision-making may enhance individuals' performance in these aspects.

First, maximizers scan the environment more frequently than satisficers. Before decision-making, they seek more alternative options (e.g., Cheek & Schwartz, 2016; Iyengar et al., 2006), conduct more in-depth background investigations (Iyengar et al., 2006), and attend to more decision-irrelevant information (Zhu et al., 2019). After decision-making, they continue searching for relevant reviews (Kim, 2022). This indicates that maximizers tend to scan and attend to their surroundings more frequently.

Second, maximizers are better at detecting and identifying threat information than satisficers. They view "non-optimal" options as potential threats to achieving optimal outcomes (Schwartz et al., 2002) and identify and eliminate more non-optimal options through exhaustive search, option comparison, and social comparison (Schwartz et al., 2002; Weaver et al., 2015). Based on practice effects (Du et al., 2013), maximizers, through repeated practice, can more quickly and accurately eliminate "non-optimal" options, thereby developing a cognitive advantage in threat information identification.

Third, maximizers allocate more cognitive resources to process threat information than satisficers. They attend to undiscovered options and their potential losses (Iyengar et al., 2006) and eliminate more non-optimal options (Polman, 2010). Even after decision completion, they still attempt to change possible non-optimal outcomes (Chowdhury et al., 2009) and retain the power to change

them (Shiner, 2015). This indicates greater cognitive resource consumption and higher cognitive load (Misuraca & Teuscher, 2013; Simon, 1955; Zhu et al., 2019). Additionally, maximizers tend to save more to cope with future risks (Brannon, 2021), further demonstrating their expenditure of more effort in processing threat information.

Fourth, when facing potential threats, maximizers experience more anxiety than satisficers. Their decision-making time is longer (Chowdhury et al., 2009; Misuraca & Teuscher, 2013; Schwartz et al., 2002), and they perceive greater time pressure (Chowdhury et al., 2009), which may lead to their anxiety (Gärling et al., 2016). Since eliminating numerous non-optimal options involves processing more threat information, maximizers may experience stronger anxiety when confronted with non-optimal options (Iyengar et al., 2006; Schwartz et al., 2002).

Fifth, when facing potential threats, maximizers show stronger physiological responses than satisficers. Maintaining high arousal and attention for extended periods is an important physiological characteristic of vigilance states (Mackworth, 1948). Maximizers have longer decision-making times and greater time pressure, resulting in higher arousal (Adam et al., 2015). Moreover, they need to continuously search and compare more options for extended periods to select optimal outcomes, whereas satisficers stop searching and comparing once they encounter satisfactory results (e.g., Cheek & Schwartz, 2016; Schwartz et al., 2002; Simon, 1955). Simultaneously, maximizers need to maintain attention to change possible non-optimal outcomes (Chowdhury et al., 2009). This indicates that maximizers better fit the characteristic of maintaining high attention for long periods. Therefore, when facing threat information (i.e., non-optimal options), maximizers may show stronger physiological responses.

In summary, maximizers' consistent performance in behavioral-cognitive aspects (e.g., environmental scanning, threat detection, threat information processing) and emotional-physiological aspects (e.g., anxiety, arousal, attention) demonstrates their stronger ability to perceive potential threats. During doctor-patient interactions, doctors' professional incompetence or professional ethics violations trigger patients' threat perception (Shin & Niv, 2021; Su et al., 2010). Compared to satisficing patients, maximizing patients may be more sensitive to potential threats, thus exhibiting stronger defensive psychology and higher vigilance toward doctors. Based on this, we propose:

Hypothesis 1: Maximizing patients exhibit higher vigilance toward doctors than satisficing patients.

1.3 The Mediating Role of Moral Disengagement

Social cognitive theory posits that people use cognitive mechanisms to free themselves from moral constraints and engage in immoral behavior (Bandura, 1991). Moral disengagement theory (Bandura, 1986, 2002) further proposes that individuals typically rely on self-regulatory systems to inhibit immoral behavior, but moral disengagement weakens this mechanism, allowing individuals to rational-

ize inappropriate behavior without violating their moral self-concept (Bandura, 2002; Detert et al., 2008; Duffy et al., 2012; Moore et al., 2012). Early research viewed moral disengagement as a stable trait (Moore et al., 2012), while recent research emphasizes its situational dependency (Zhu et al., 2021; Chen & Liang, 2017). For example, job insecurity triggers employees' moral disengagement, increasing workplace deviant behavior (Huang et al., 2017). This study argues that when patients perceive potential threats from doctors, moral disengagement may mediate the effect of maximizing decision-making on vigilance.

According to social exchange theory (Blau, 1964), maximizing decision-makers are more likely to activate moral disengagement. Potential threats from doctors trigger negative experiences such as cognitive depletion and anxiety (Smith et al., 2019). Individuals tend to partially attribute negative states to others (Miller & Ross, 1975). Therefore, patients may blame doctors for threat perception and negative experiences.

Based on social exchange theory (Blau, 1964), this attribution may lead patients to believe that doctors have violated the "implicit contract" of social exchange (Rousseau, 1995), causing their own painful experiences and thereby activating moral disengagement mechanisms. Since maximizing decision-making enhances patients' ability to perceive potential threats, maximizing patients are more likely to attribute threat-induced negative experiences to doctors violating the mutually beneficial psychological contract, thus freeing themselves from moral standards and activating moral disengagement mechanisms.

Although no direct evidence explores the relationship between maximizing decision-making and moral disengagement, multiple indirect studies support their association. On one hand, research shows that individuals tend to pursue maximization in valued domains (Zhu et al., 2022), and maximizing positively correlates with greed (Seuntjens et al., 2015). This indicates that maximizing decision-makers highly focus on their own goals and interests. On the other hand, maximizing decision-makers not only extensively evaluate various types of information (e.g., existing options, potential alternatives, rejected options, and additional information) (Hughes & Scholer, 2017; Zhu et al., 2019) but also more frequently change decision outcomes (Chowdhury et al., 2009; Ma & Roese, 2014; Shiner, 2015), demonstrating high cognitive flexibility. Highly goal-oriented individuals tend to actively employ moral disengagement mechanisms through cognitive flexibility, using self-justification and behavioral rationalization to achieve personal interests (Shalvi et al., 2015). Moreover, maximizing decision-makers often adopt an egocentric perspective when making decisions for others (Luan et al., 2018) and are perceived as lacking warmth in interpersonal interactions (Chen et al., 2023), a low-empathy trait that highly matches characteristics of moral disengagers (Detert et al., 2008; Moore et al., 2012). Thus, maximizing decision-making may stimulate individuals' moral disengagement.

Combining social exchange theory (Blau, 1964) and moral disengagement theory (Bandura, 1986), moral disengagement mechanisms not only foster immoral

behavior but may also enhance patient vigilance toward doctors. Although vigilance itself is not immoral behavior, since not all doctors harm patients' interests (Haque & Waytz, 2012), patient vigilance may violate doctors' expectations of prosocial norms (Blau, 1964; Eisenberg et al., 2010) and even be perceived as betrayal of the relationship (Saeed et al., 2024). Therefore, vigilant patients may experience guilt and self-condemnation, similar to negative emotions following immoral behavior (Cohen et al., 2012; Tangney et al., 2007). According to moral disengagement theory (Bandura, 1986), a normally functioning moral self-regulatory system would inhibit patient vigilance. However, when moral disengagement mechanisms are activated, patients reframe vigilance, ignore its harm to doctors, or attribute blame to doctors, thereby freeing themselves from cognitive dissonance caused by vigilance and more likely exhibiting high vigilance. This psychological process exists not only in morally relevant behaviors (e.g., social undermining; Duffy et al., 2012) and decisions (e.g., unethical decisions; Detert et al., 2008) but also in behaviors not directly related to morality (e.g., employee turnover behavior; Huang et al., 2017) or experiences (e.g., psychological well-being; Aftab & Malik, 2021).

In summary, compared to satisficing patients, maximizing patients are more likely to use moral disengagement mechanisms to justify their vigilance toward doctors, thereby maintaining higher vigilance. Specifically, they may view vigilance as a legitimate defensive means to protect their own interests, believe vigilance does not cause substantial harm to doctors, or attribute potential harm to doctors. Thus, we propose:

Hypothesis 2: Moral disengagement mediates the relationship between maximizing decision-making and patient vigilance toward doctors.

1.4 The Moderating Role of Doctors' Friendly Behavior

Doctors' friendly behavior refers to caring, respectful, and supportive actions doctors actively take in doctor-patient interactions (Doyle et al., 2013), such as listening patiently, explaining conditions in detail, or prescribing more effective medications. Since individuals' threat perception is often related to others' behavioral performance (Bandura, 1999), and moral disengagement is typically triggered by threat perception (e.g., job insecurity; Huang et al., 2017), the degree to which maximizing decision-making triggers patient moral disengagement may be closely related to doctors' friendly behavior.

Specifically, patients' threat perception toward doctors easily forms negative stereotypes (Zuo et al., 2006). According to construal level theory (CLT; Trope & Liberman, 2010), when individuals have greater psychological distance from actors, their perception of actors relies more on generalized or stereotypical impressions of the actor's group rather than specific behaviors (McCrea et al., 2012). Therefore, when perceiving individual doctors, patients are more likely to rely on negative stereotypes of the doctor group to form negative expectations, because doctors and patients belong to different groups with greater psycholog-

ical distance (Fu et al., 2020). Research shows that the human brain tends to believe information consistent with original expectations and doubt information inconsistent with expectations (Nickerson, 1998). When doctors exhibit friendly behavior, this positive performance does not match patients' negative expectations, breaking patients' stereotypes (Hilton & von Hippel, 1996), leading patients to suspect doctors' motives (Mayer et al., 1995) and believe their friendly behavior may hide negative intentions, such as recommending new drugs to obtain extra economic benefits. Once patients believe doctors' friendly behavior serves negative intentions, potential threats from doctors are further confirmed and amplified (Shin & Niv, 2021).

Moreover, research shows that perceived intentionality plays an important role in evaluating negative behavioral consequences (Morewedge, 2009). When behaviors cause negative consequences, people tend to believe they are intentional (Knobe, 2003). This suggests that intentionality may be seen as a cue for negative outcomes. When doctors actively exhibit friendliness, patients perceive their intentionality (Bonaccio et al., 2016), then infer that friendly behavior may lead to negative consequences, strengthening their perception of doctors' potential threats.

Combining characteristics of maximizing and satisficing decision-making, since maximizing patients have stronger ability to perceive potential threats, doctors' friendly behavior may further intensify their threat perception. Therefore, maximizing patients are more likely to activate moral disengagement mechanisms to rationalize their vigilance toward doctors.

Hypothesis 3: Doctors' friendly behavior moderates the relationship between maximizing decision-making and patient moral disengagement. This relationship is stronger when doctors exhibit friendly behavior and weaker when they do not.

[Figure 1: see original paper] Theoretical Framework

Based on this, this study proposes that doctors' friendly behavior moderates the indirect effect of maximizing decision-making on patient vigilance through moral disengagement (as shown in Figure 1). Specifically, when doctors exhibit friendly behavior, the mediating effect of moral disengagement becomes more pronounced. Therefore, we propose:

Hypothesis 4: Doctors' friendly behavior moderates the indirect relationship between maximizing decision-making and patient vigilance through moral disengagement. This indirect relationship is stronger when doctors exhibit friendly behavior and weaker when they do not.

2. Study 1

2.1 Purpose

Study 1 sampled patients with recent medical consultation experiences but outside hospital settings, aiming to preliminarily explore the effect of maximizing decision-making on patient vigilance and verify the mediating role of moral disengagement, thereby testing Hypotheses 1 and 2. Additionally, this study examined common ingroup identity as an alternative explanation. Research shows that maximizing decision-makers' stronger egocentric decision-making perspective (Luan et al., 2018) hinders common ingroup identity formation (Brewer & Chen, 2007), while doctor-patient common ingroup identity effectively alleviates patients' competitive victimhood (Deng et al., 2023), thereby reducing their defensive vigilance. Thus, common ingroup identity may also be a mechanism through which maximizing decision-making affects vigilance. This study measured common ingroup identity to exclude its role in the maximizing effect.

2.2 Methods

2.2.1 Participants The independent variable was maximizing decision-making, the mediating variable was moral disengagement, and the dependent variable was patient vigilance toward doctors. Sample size estimation was conducted using G*Power software for chi-square tests (setting statistical power $1-\beta = 0.80$, significance level $\alpha = 0.05$, effect size $\phi = 0.3$), yielding a minimum sample size of 88. This study recruited 140 eligible participants through the Credamo platform (95 females, 45 males; age: M = 35.59 years, SD = 5.07).

Inclusion criteria were adults without medical-related educational backgrounds who had medical consultation experiences within the past six months. To ensure sample quality, the study included two screening items: "Have you received medical professional education?" and "Have you had any medical consultation experiences in the past six months?" Participants who did not meet criteria were automatically excluded by the platform, and recruitment slots were reopened.

2.2.2 Procedure and Materials Participants sequentially completed measures of maximizing decision-making, patient vigilance toward doctors, moral disengagement, common ingroup identity, and demographic variables. After the study, participants received small gifts as appreciation. Regarding measurement tools, the study measured patient vigilance toward doctors using patients' subjective predictions of target doctors' possible behaviors in typical medical scenarios. All other variables were measured using established scales published in authoritative domestic and international journals with demonstrated reliability and validity. All scales underwent rigorous back-translation procedures and were appropriately adjusted for Chinese contexts. Specific measurement tools were as follows:

Maximizing Decision-Making. The 13-item Maximization Scale developed

by Schwartz et al. (2002) was used. Sample items include "No matter what it takes, I always try to choose the best" and "I don't like to settle for 'good enough' options." The scale used 7-point ratings (1 = strongly disagree, 7 = strongly agree; Cronbach's α = 0.80), with higher scores indicating stronger maximizing orientation (M = 4.10, 95% CI = [3.98, 4.26]). Following Luan and Li's (2017) classification criteria, participants with scale means above the median were classified as maximizers (n = 70), and those below as satisficers (n = 70).

Patient Vigilance Toward Doctors. Drawing on Liu et al.'s (2019) method for measuring vigilance toward ingroup members, this study measured patient vigilance toward doctors using patients' subjective predictions of doctors' possible behaviors in typical medical scenarios. Previous research indicates that doctors' medical competence and ethics deficiencies are primary factors causing patient distrust (Lü et al., 2019), and China's doctor-patient conflicts mainly concentrate on six aspects: treatment effectiveness, professional skills, service attitude, medical costs, consultation duration, and medical integrity (Su et al., 2010). Based on this, this study measured vigilance from two dimensions—medical competence and medical ethics—further subdividing competence into professional ability and work attitude, and ethics into economic interests and resource allocation.

By drawing on and organizing specific examples from relevant research, this study designed eight typical medical scenarios (see Appendix 1), each corresponding to sub-dimensions: professional ability (performing high-difficulty surgery, diagnosing rare diseases), work attitude (working emergency night shifts, seeing high-volume outpatients), economic interests (prescribing medications, handling patient red envelopes), and resource allocation (allocating special-effect medications, treating high-power patients). For example, the high-difficulty surgery scenario was: "Dr. Wang is an orthopedic surgeon about to perform an extremely technically difficult and complex surgery for a patient. In this situation, what behaviors do you think Dr. Wang might exhibit?" The medication prescribing scenario was: "Dr. Shen is a respiratory physician who needs to prescribe corresponding medications based on diagnosis. In this situation, what behaviors do you think Dr. Shen might exhibit?" To avoid interference from individual doctor characteristics, all scenarios only mentioned doctors' surnames. Patients needed to list at least two possible behaviors doctors might adopt in each scenario and rate the positivity/negativity of listed behaviors on a 7-point scale ("Is this behavior positive or negative?"; −3 = very negative, 0 = ambiguous, 3 = very positive).

Moral Disengagement. The 8-item Propensity to Morally Disengage Scale developed by Moore et al. (2012) was used. Sample items include "It is okay to spread rumors to protect those you care about." The scale used 7-point ratings (1 = strongly disagree, 7 = strongly agree; Cronbach's α = 0.83), with higher scores indicating higher moral disengagement.

Common Ingroup Identity. The 2-item scale developed by Deng et al. (2023)

measured patients' identification with the doctor-patient common ingroup. Specific items were "Doctors and patients together constitute a group fighting disease, and I also belong to this group" and "Belonging to the disease-fighting group, I feel proud of it." Items used 7-point ratings (1 = strongly disagree, 7 = strongly agree), with higher scores indicating stronger common ingroup identity.

2.2.3 Coding of Patient Vigilance Toward Doctors Following previous research coding methods (Liu et al., 2019; Study 1), two research assistants unaware of the study hypotheses coded patients' descriptions of possible doctor behaviors (−1 = negative behavior, 0 = ambiguous behavior, 1 = positive behavior). Specifically, positive behaviors included "actively preparing for surgery to ensure success" and "prescribing appropriate medications based on condition"; ambiguous behaviors included "having other experts perform the surgery" and "prescribing more effective but more expensive medications"; negative behaviors included "making minor mistakes during surgery due to excessive nervousness" and "prescribing medications from cooperating pharmaceutical companies to obtain extra commissions." Additionally, other unclear behaviors were not coded and excluded from subsequent analysis. The two research assistants showed high coding consistency (ICC = 0.95), with disagreements resolved through discussion. Since negative and ambiguous behaviors are more threatening than positive behaviors, negative and ambiguous behaviors indicated vigilance, while positive behaviors indicated no vigilance.

Considering that vigilance is essentially a subjective experience, researchers further used patients' self-ratings of doctors' possible behaviors to verify research assistants' coding accuracy. Results showed patients' self-ratings were highly correlated with research assistants' coding ($r = 0.76$, $p < 0.001$), indicating high accuracy and validity of the coding.

2.3 Results

2.3.1 Effect of Maximizing Decision-Making on Patient Vigilance Chi-square tests analyzed the effect of maximizing decision-making on patient vigilance. The independent variable was a dichotomous variable of maximizers (scale scores above median) vs. satisficers (below median), and dependent variables were proportions of positive, negative, and ambiguous behaviors. Results showed (see Figure 2 [Figure 2: see original paper]) that compared to satisficers, maximizers believed doctors would exhibit fewer positive behaviors (maximizers: 64.02% vs. satisficers: 76.36%; $^2(1, N = 1280) = 18.18$, $p < 0.001$, $\phi = 0.12$) and more negative behaviors (maximizers: 17.98% vs. satisficers: 8.97%; $^2(1, N = 1280) = 16.36$, $p < 0.001$, $\phi = -0.11$). The difference in ambiguous behaviors was not significant (maximizers: 17.98% vs. satisficers: 14.67%; $^2(1, N = 1280) = 2.03$, $p = 0.154$).

Logistic regression further analyzed the effect of maximizing decision-making on patient vigilance. The independent variable was maximizing decision-making

(continuous), and the dependent variable was patient vigilance toward doctors (dichotomous; 0 = positive behavior, representing no vigilance; 1 = negative and ambiguous behaviors, representing vigilance). Results showed maximizing decision-making significantly positively predicted patient vigilance (B = 0.34, SE = 0.06, Wald ^{2} = 27.09, p < 0.001, Exp(B) = 1.40, 95% CI [1.23, 1.58]). Thus, Hypothesis 1 was supported.

2.3.2 Mediating Role of Moral Disengagement Regression analysis tested the mediating role of moral disengagement. The independent variable was maximizing decision-making (continuous), the mediating variable was moral disengagement (continuous), and the dependent variable was patient vigilance toward doctors (dichotomous; 0 = positive behavior, representing no vigilance; 1 = negative and ambiguous behaviors, representing vigilance). Results showed (see Figure 3 [Figure 3: see original paper]) that maximizing decision-making significantly positively affected moral disengagement (B = 0.40, SE = 0.03, p < 0.001, 95% CI [0.35, 0.45]). Logistic regression indicated moral disengagement significantly positively affected patient vigilance (B = 0.30, SE = 0.05, Wald ^{2} = 35.72, p < 0.001, Exp(B) = 1.35, 95% CI [1.23, 1.49]). When both maximizing decision-making and moral disengagement were entered into the regression model, moral disengagement significantly positively affected patient vigilance (B = 0.25, SE = 0.05, p < 0.001, 95% CI [0.14, 0.35]), while the effect of maximizing decision-making on vigilance weakened (B = 0.24, SE = 0.07, p < 0.001, 95% CI [0.11, 0.37]). Following Hayes's (2012) analytical method for dichotomous dependent variables, bootstrap analysis with 5,000 resamples further tested the mediation effect. Results indicated the indirect effect of maximizing decision-making on patient vigilance through moral disengagement was significant (B = 0.10, SE = 0.02, 95% CI [0.06, 0.14]). Thus, Hypothesis 2 was supported.

An alternative explanation for the main effect of maximizing decision-making is possible: compared to satisficers, maximizers may fail to establish a common superordinate identity with doctors and do not form common ingroup identity, with their high vigilance toward doctors potentially stemming from distrust of outgroup members. To exclude this possibility, researchers used t-tests to analyze the effect of maximizing decision-making on patients' common ingroup identity. The independent variable was a dichotomous variable of maximizers vs. satisficers, and the dependent variable was common ingroup identity (continuous). Results showed maximizers' common ingroup identity with doctors was significantly higher than satisficers' (M = 5.82, SD = 0.89 vs. M = 5.28, SD = 1.23; t(138) = 2.91, p = 0.004, Cohen's d = 0.50). Meanwhile, regression analysis further tested the effect of maximizing decision-making (continuous) on common ingroup identity (continuous). Results indicated maximizing decision-making significantly positively predicted common ingroup identity (β = 0.24, SE = 0.19, p = 0.004). These results excluded the possibility of lower common ingroup identity among maximizers, supporting the study's hypotheses.

2.3.3 Additional Analysis Chi-square tests further analyzed the effect of maximizing decision-making on patient vigilance toward doctors' competence and ethics. The independent variable was a dichotomous variable of maximizers vs. satisficers, and dependent variables were proportions of patients showing vigilance (i.e., negative and ambiguous behaviors) toward competence or ethics. Results showed maximizers' vigilance proportion toward doctors' competence was significantly higher than satisficers' (17.90% vs. 9.87%; $^2(1, N = 186) = 23.42$, $p < 0.001$, $\phi = 0.35$), and their vigilance proportion toward ethics was also significantly higher (17.19% vs. 14.80%; $^2(1, N = 211) = 4.56$, $p = 0.033$, $\phi = 0.15$), though the difference in ethics vigilance was smaller. Additionally, satisficers' vigilance proportion toward doctors' ethics was significantly higher than toward competence (14.80% vs. 9.87%; $^2(1, N = 150) = 6.00$, $p = 0.014$, $\phi = 0.07$), while maximizers showed no significant difference in vigilance proportions toward competence and ethics (17.90% vs. 17.19%; $^2(1, N = 247) = 0.101$, $p = 0.750$, $\phi = 0.01$).

2.4 Discussion

Study 1 preliminarily verified the main effect of maximizing decision-making and the mediating effect of moral disengagement among patient groups with recent consultation experiences but outside hospital environments. Results showed maximizing decision-making significantly enhanced patient vigilance toward doctors, with moral disengagement playing a significant mediating role. Specifically, compared to satisficers, maximizers showed higher vigilance toward doctors, primarily attributable to their higher moral disengagement levels rather than lower common ingroup identity.

The introduction section posited that maximizing decision-making significantly strengthens patients' threat perception toward doctors by enhancing their ability to perceive potential threats, thereby triggering moral disengagement mechanisms. Therefore, enhanced threat perception toward doctors constitutes a key prerequisite for moral disengagement mechanisms to function. Given that previous research has not revealed the association between maximizing decision-making and threat perception, this study verified this prerequisite through a follow-up study. Moreover, although Study 1 excluded common ingroup identity as an alternative explanation, other potential confounding variables still needed consideration, such as participants' education level, immediate emotional states, and previous consultation experiences. Based on these considerations, to test the threat perception prerequisite and effectively control for confounding variables, researchers conducted a study with 120 adults recruited from the Credamo platform without medical backgrounds who had consultation experiences within the past six months. Participants sequentially completed measures of maximizing decision-making (Maximization Scale; Schwartz et al., 2002), threat perception (Trust in Physician Scale; Anderson & Dedrick, 1990), education level (years of education), immediate emotional state (PANAS; Watson et al., 1988), and consultation experience ("How was your last consultation experience?" 1 = very

unpleasant, 7 = very pleasant). Results showed maximizers' perceived threat toward doctors was significantly higher than satisficers' ($M = 3.42$, $SD = 1.23$ vs. $M = 2.40$, $SD = 1.14$; $t(118) = 4.71$, $p < 0.001$). Regression analysis further showed maximizing decision-making significantly positively predicted threat perception ($\beta = 0.53$, $SE = 0.12$, $p < 0.001$). Additionally, the two groups showed no significant differences in education level (maximizers: $M = 11.85$, $SD = 2.87$; satisficers: $M = 12.15$, $SD = 3.35$; $t(118) = 0.53$, $p = 0.600$), positive emotion (Cronbach's $\alpha = 0.90$; maximizers: $M = 2.93$, $SD = 1.38$; satisficers: $M = 3.15$, $SD = 1.39$; $t(118) = 0.86$, $p = 0.392$), negative emotion (Cronbach's $\alpha = 0.88$; maximizers: $M = 3.08$, $SD = 1.42$; satisficers: $M = 2.75$, $SD = 1.50$; $t(118) = -1.25$, $p = 0.214$), or consultation experience (maximizers: $M = 4.25$, $SD = 2.06$; satisficers: $M = 3.95$, $SD = 1.99$; $t(118) = -0.81$, $p = 0.420$). These results not only provide a key prerequisite for maximizing decision-making to activate moral disengagement mechanisms but also exclude the influence of potential confounding variables.

3. Study 2

3.1 Purpose

Study 2 employed a field survey method with real patients in hospital settings to further examine the relationships among maximizing decision-making, moral disengagement, and patient vigilance toward doctors, while exploring the moderating role of doctors' friendly behavior to verify the full model and its ecological validity.

3.2 Methods

3.2.1 Sample This study was conducted at a nephrology specialty hospital in northern China. With the department chief's assistance, researchers selected a male doctor in his late 30s as the target doctor and required him to not disclose any personal information during all consultations in the study period. To control for other potential confounding factors (e.g., treatment effects, long-term contact, treatment costs), the sample was limited to first-time outpatients who registered for this doctor's general practice and had no previous contact with him. When obtaining informed consent, researchers promised participants: strict confidentiality of patient information and ensured data anonymity; patients could withdraw from the study unconditionally at any time; the research process fully complied with ethical standards. This study was approved by the Ethics Committee of the School of Psychology, Capital Normal University. A total of 375 patients were included, and after excluding samples that did not complete post-consultation questionnaires or whose pre- and post-consultation questionnaires could not be matched, 327 valid questionnaires were obtained (155 females, 172 males; age: $M = 33.71$ years, $SD = 9.24$), yielding a valid response rate of 87.20%.

3.2.2 Procedure and Materials This study collected data at two time points: before and after consultation. Before consultation, patients reported maximizing decision-making (independent variable) and demographic information; after consultation, they reported doctors' friendly behavior (moderating variable), vigilance toward doctors (dependent variable), moral disengagement (mediating variable), and control variables. Patients completed questionnaires in the waiting area outside the consultation room and received small gifts as appreciation after returning them. Variables were measured as follows:

Maximizing Decision-Making. The same 13-item scale as in Study 1 was used (Schwartz et al., 2002; Cronbach's $\alpha = 0.82$).

Doctor Friendly Behavior. Patients answered questions about doctors' friendly behavior based on their actual experiences and feelings. The specific question was: "Please recall the just-completed consultation process. Did the doctor, beyond routine procedures, actively perform positive behaviors beneficial to you based on your personal needs or special circumstances? For example, recommending more suitable doctors or medical institutions based on your condition, or prescribing newly developed and more effective special medications?" If patients believed the doctor did not exhibit friendly behavior, they described the consultation process in detail; if they believed the doctor did exhibit friendly behavior, they described both the consultation process and specific friendly behaviors. Patients' subjective descriptions not only prompted deep reflection but also provided researchers with basis for verifying and correcting judgments about doctors' friendly behavior. Results showed high consistency between researchers' and patients' judgments of doctors' friendly behavior (ICC = 0.94).

Patient Vigilance Toward Doctors. The same subjective prediction method as in Study 1 was used to measure patient vigilance toward doctors. Two research assistants coded possible doctor behaviors similarly to Study 1 (0 = positive behavior, representing no vigilance; 1 = negative and ambiguous behaviors, representing vigilance; ICC = 0.93).

Moral Disengagement. The same 8-item scale as in Study 1 was used (Moore et al., 2012; Cronbach's $\alpha = 0.86$).

Control Variables. In addition to demographic information, researchers controlled for the following variables to exclude potential interference. Specifically, an 11-item scale measured patients' prior attitudes toward doctors (e.g., "Sometimes doctors care more about their own convenience than patients' medical needs"; Hall et al., 2002; $\alpha = 0.83$) to control for potential effects on patient vigilance. Three adapted items measured patients' sense of competition in doctor-patient relationships (e.g., "The more resources doctors get, the less I get," "If doctors' situation improves, mine worsens," and "Doctors may take away what I currently have"; $\alpha = 0.80$), because although doctor-patient relationships are not competitive, competitive feelings may affect patient vigilance (Liu et al., 2019). Additionally, consultation quality ("How was the quality of this consultation?" 1 = low quality, 7 = high quality) and disease severity ("How serious

is your disease?" 1 = not serious at all, 7 = very serious) were measured.

3.3 Results

3.3.1 Descriptive Statistics Table 1 presents means, standard deviations, and correlations among variables. Results showed maximizing decision-making was significantly positively correlated with moral disengagement ($r = 0.68$, $p < 0.001$) and vigilance toward doctors ($r = 0.40$, $p = 0.002$). Meanwhile, moral disengagement was also significantly positively correlated with vigilance toward doctors ($r = 0.44$, $p = 0.001$).

3.3.2 Hypothesis Testing To test hypotheses, a regression model was constructed with maximizing decision-making (continuous) as the independent variable, doctor friendly behavior (dichotomous; 0 = no friendly behavior, 1 = friendly behavior) as the moderator, moral disengagement (continuous) as the mediator, and patient vigilance toward doctors (dichotomous; 0 = no vigilance, 1 = vigilance) as the dependent variable. Results are shown in Table 2 .

To test Hypothesis 1, Model 6 showed that after controlling for relevant variables, maximizing decision-making significantly positively predicted patient vigilance toward doctors ($B = 0.45$, $SE = 0.04$, Wald $^2 = 142.67$, $p < 0.001$, $Exp(B) = 1.57$, 95% CI [1.46, 1.69]), supporting Hypothesis 1.

To test Hypothesis 2, Model 2 showed maximizing decision-making significantly positively affected moral disengagement ($B = 0.69$, $SE = 0.01$, $p < 0.001$). Model 7 indicated moral disengagement significantly positively affected patient vigilance toward doctors ($B = 0.44$, $SE = 0.03$, Wald $^2 = 175.22$, $p < 0.001$, $Exp(B) = 1.55$, 95% CI [1.45, 1.65]). Model 8 showed that after adding moral disengagement, its positive effect on vigilance remained significant ($B = 0.30$, $SE = 0.04$, Wald $^2 = 50.68$, $p < 0.001$, $Exp(B) = 1.36$, 95% CI [1.25, 1.47]), while maximizing decision-making's effect on vigilance weakened ($B = 0.23$, $SE = 0.05$, Wald $^2 = 23.06$, $p < 0.001$, $Exp(B) = 1.26$, 95% CI [1.15, 1.38]). Bootstrap analysis with 5,000 resamples further tested the mediation effect. Results showed the indirect effect of maximizing decision-making on patient vigilance through moral disengagement was significant ($B = 0.22$, $SE = 0.03$, 95% CI [0.16, 0.28]). This indicated moral disengagement mediated the relationship between maximizing decision-making and patient vigilance, supporting Hypothesis 2.

To test Hypothesis 3, Model 4 showed the interaction between maximizing decision-making and doctor friendly behavior significantly positively affected moral disengagement ($B = 0.21$, $SE = 0.02$, $p < 0.001$). As shown in Figure 4 [Figure 4: see original paper], when doctors did not exhibit friendly behavior, maximizing decision-making significantly affected moral disengagement ($B = 0.55$, $SE = 0.02$, $p < 0.001$); when doctors exhibited friendly behavior, this effect was further strengthened ($B = 0.74$, $SE = 0.01$, $p < 0.001$). This indicated whether doctors exhibited friendly behavior significantly moderated the relation-

ship between maximizing decision-making and moral disengagement, supporting Hypothesis 3.

To test Hypothesis 4, bootstrap analysis with 5,000 resamples calculated the mediating effect of maximizing decision-making on patient vigilance through moral disengagement when doctors did and did not exhibit friendly behavior and their 95% confidence intervals. Results showed when doctors did not exhibit friendly behavior, the mediating effect was significant (B = 0.16, SE = 0.02, 95% CI [0.12, 0.21]); when doctors exhibited friendly behavior, the mediating effect was significantly strengthened (B = 0.22, SE = 0.03, 95% CI [0.16, 0.28]). The difference in mediating effects between the two conditions was significant ($\Delta\beta$ = 0.06, SE = 0.01, 95% CI [0.05, 0.09]), supporting Hypothesis 4.

3.4 Discussion

Study 2 confirmed the significant moderating role of doctors' friendly behavior in the mediation of moral disengagement between maximizing decision-making and patient vigilance, providing support for the full model. Although Study 2 had high external validity, replicating variable relationships in real-world settings beyond the laboratory, it had the following limitations: First, the research design could not establish causal inference between variables; second, most patients described doctors' friendly behaviors with large variations, and this heterogeneity might interfere with research results.

To address these limitations, Study 3 used experimental design to directly manipulate maximizing decision-making and doctors' friendly behavior to further verify causal relationships between variables.

4. Study 3

4.1 Purpose

Study 3 used experimental design to directly manipulate maximizing decision-making and doctors' friendly behavior, replicating the full model while providing causal evidence for variable relationships.

4.2 Methods

4.2.1 Participants and Design This study used a 2 (maximizing decision-making: maximizing/satisficing) × 2 (doctor friendly behavior: present/absent) between-subjects design, with moral disengagement as the mediator and patient vigilance toward doctors as the dependent variable. Sample size estimation was conducted using G*Power software for two-way ANOVA (setting statistical power $1-\beta = 0.80$, two-tailed $\alpha = 0.05$, effect size f = 0.40, with 4 groups), yielding a minimum sample size of 73. Researchers recruited 300 patients from three hospitals in Beijing who voluntarily participated and provided detailed informed consent. To ensure data quality, an attention check item was included: "Did the doctor in the above medical scenario exhibit friendly behavior?" After

excluding 28 participants who did not complete or failed the attention check, the final valid sample was 272 (170 females, 102 males; age: M = 38.21 years, SD = 11.47).

4.2.2 Procedure and Materials Participants were randomly assigned to maximizing or satisficing decision-making groups, completing corresponding priming tasks and manipulation check items. Subsequently, participants randomly completed vigilance measurement tasks with or without doctor friendly behavior and attention check items. Finally, participants sequentially completed the moral disengagement scale, control variable measures, and demographic information. Participants completed questionnaires in hospital lobby waiting areas and received small gifts as appreciation. Research materials were as follows:

Maximizing Decision-Making Manipulation. Following previous maximizing research priming procedures (Luan & Li, 2017; Ma & Roese, 2014; Zhu et al., 2019), the maximizing group answered five decision-making questions about books, travel destinations, universities, jobs, and pets, each requiring selection of the best option from five alternatives (e.g., "Please select the university you believe provides the best education: A. Harvard; B. Yale; C. Princeton; D. Pennsylvania; E. Columbia"). The satisficing group answered similar five questions but required selection of satisfactory options (e.g., "Please select the university you believe provides satisfactory education: A. Harvard; B. Yale; C. Princeton; D. Pennsylvania; E. Columbia"). Subsequently, all participants completed manipulation check items ("To what extent was your choice motivated by 'satisfactory'/'best' motives?" 1 = not at all motivated by satisfactory/best motives, 9 = completely motivated by satisfactory/best motives).

Patient Vigilance Toward Doctors Measurement. Participants randomly completed vigilance measurement tasks with or without doctor friendly behavior. In the no-friendly-behavior condition, following Cheng et al.'s (2021) measurement method, participants read the eight medical scenarios from Study 1 (i.e., without doctor friendly behavior) and predicted how likely doctors were to engage in behaviors harming patients' interests (1 = completely impossible, 7 = very likely; $\alpha = 0.92$). In the friendly-behavior condition, following Liu et al.'s (2019) method for measuring vigilance when target persons exhibit friendly behavior, researchers added doctors' friendly behaviors to the eight medical scenarios from Study 1 (see Appendix 2). Participants read the eight medical scenarios with doctor friendly behavior and predicted how likely doctors were to engage in behaviors harming patients' interests (1 = completely impossible, 7 = very likely; $\alpha = 0.85$). Example scenarios with friendly behavior: High-difficulty surgery scenario: "Dr. Wang is an orthopedic surgeon about to perform an extremely technically difficult and complex surgery for a patient. Dr. Wang explained key surgical steps, potential risks, and possible consequences in detail before surgery. How likely do you think Dr. Wang is to engage in behaviors harming patients' interests?" Medication prescribing scenario: "Dr. Shen is a respiratory physician who needs to prescribe corresponding medications based

on diagnosis. Dr. Shen chose the latest developed and more effective special medication when writing prescriptions. How likely do you think Dr. Shen is to engage in behaviors harming patients' interests?" In both conditions, higher likelihood predictions indicated stronger patient vigilance toward doctors.

Moral Disengagement Measurement. The same 8-item scale as in Study 1 was used (Moore et al., 2012; Cronbach's $\alpha = 0.86$).

Control Variable Measurement. To control for potential confounding interference, participants also completed measures of emotional experience (PANAS; Watson et al., 1988) and health literacy (Wu et al., 2020; $\alpha = 0.74$~0.82), and reported psychological distance from doctors ("Overall, how close do you feel to doctors?" 1 = very close, 7 = very far) and perceived consultation fee reasonableness ("How reasonable do you think this consultation fee is?" 1 = very unreasonable, 7 = very reasonable).

4.3 Results

4.3.1 Maximizing Decision-Making Manipulation Check Independent samples t-tests analyzed differences between maximizing and satisficing groups. Results showed the maximizing group rated their choices as significantly more motivated by best motives (M = 6.16, SD = 0.32) than the satisficing group (M = 3.85, SD = 0.90; $t(270) = 28.05$, $p < 0.001$), and significantly less motivated by satisfactory motives (M = 3.86, SD = 0.92) than the satisficing group (M = 5.88, SD = 0.42; $t(270) = 23.25$, $p < 0.001$). This indicated the maximizing decision-making manipulation was effective.

4.3.2 Effect of Maximizing Decision-Making on Patient Vigilance Two-way ANOVA with patient vigilance as the dependent variable tested the effect of maximizing decision-making. Results showed a significant main effect of maximizing decision-making, $F(1, 268) = 146.45$, $p < 0.001$, $p^2 = 0.35$. Specifically, maximizing group participants (M = 3.94, SD = 1.56) showed higher vigilance toward doctors than satisficing group participants (M = 2.00, SD = 1.06; $t(270) = 12.10$, $p < 0.001$). Additionally, the main effect of doctor friendly behavior was significant, $F(1, 268) = 4.92$, $p = 0.027$, $p^2 = 0.02$. The interaction between maximizing decision-making and doctor friendly behavior was also significant, $F(1, 268) = 4.16$, $p = 0.043$, $p^2 = 0.02$. To verify result robustness, participants' positive emotion, negative emotion, health literacy, psychological distance from doctors, and perceived consultation fee reasonableness were controlled as covariates. ANCOVA results still showed maximizing group vigilance toward doctors was higher than satisficing group, $F(1, 263) = 165.62$, $p < 0.001$, $p^2 = 0.39$. Results supported Hypothesis 1.

4.3.3 Mediating Effect of Moral Disengagement Two-way ANOVA with moral disengagement as the dependent variable tested the effect of maximizing decision-making. Results showed a significant main effect of maximizing decision-making, $F(1, 268) = 173.75$, $p < 0.001$, $p^2 = 0.39$. The main effect of

friendly behavior was also significant, $F(1, 268) = 7.12$, $p = 0.008$, $p^2 = 0.03$. Specifically, maximizing group participants ($M = 5.48$, $SD = 1.32$) showed higher moral disengagement than satisficing group participants ($M = 3.38$, $SD = 1.30$; $t(270) = 13.18$, $p < 0.001$).

Bootstrap analysis with 5,000 resamples further tested the mediating effect of moral disengagement. The independent variable was maximizing decision-making (dichotomous; 0 = satisficing, 1 = maximizing), the mediating variable was moral disengagement (continuous), and the dependent variable was patient vigilance toward doctors (continuous). Results indicated the indirect effect of maximizing decision-making on patient vigilance through moral disengagement was significant ($B = 0.49$, $SE = 0.13$, 95% CI [0.23, 0.73]). Results supported Hypothesis 2.

4.3.4 Moderating Effect of Doctor Friendly Behavior The above ANOVA results also showed a significant interaction between maximizing decision-making and doctor friendly behavior on moral disengagement ($F(1, 268) = 34.22$, $p < 0.001$, $p^2 = 0.11$). As shown in Figure 5 [Figure 5: see original paper], when doctors did not exhibit friendly behavior, maximizing group participants' moral disengagement ($M = 4.78$, $SD = 1.41$) was significantly higher than satisficing group participants' ($M = 3.54$, $SD = 1.50$; $t(134) = 4.94$, $p < 0.001$). When doctors exhibited friendly behavior, the difference in moral disengagement between the two groups further increased (maximizing group: $M = 6.18$, $SD = 0.73$; satisficing group: $M = 3.22$, $SD = 1.05$; $t(134) = 19.06$, $p < 0.001$). Results supported Hypothesis 3.

4.3.5 Full Model Test Bootstrap analysis with 5,000 resamples calculated the mediating effect of maximizing decision-making on patient vigilance through moral disengagement when doctors did and did not exhibit friendly behavior and their 95% confidence intervals. The independent variable was maximizing decision-making (dichotomous; 0 = satisficing, 1 = maximizing), the moderator was doctor friendly behavior (dichotomous; 0 = no friendly behavior, 1 = friendly behavior), the mediating variable was moral disengagement (continuous), and the dependent variable was patient vigilance toward doctors (continuous). Results showed when doctors did not exhibit friendly behavior, the mediating effect was significant ($B = 0.29$, $SE = 0.09$, 95% CI [0.13, 0.47]); when doctors exhibited friendly behavior, the mediating effect was significantly strengthened ($B = 0.69$, $SE = 0.18$, 95% CI [0.34, 1.05]). The difference in mediating effects between the two conditions was significant ($\Delta\beta = 0.40$, $SE = 0.13$, 95% CI [0.17, 0.68]), supporting Hypothesis 4. In summary, results provided empirical support for the theoretical model.

5. General Discussion

This study explored the effect of maximizing decision-making on patient vigilance from a doctor-patient interaction perspective, examining the mediating

effect of moral disengagement and the moderating effect of doctors' friendly behavior. Results showed: First, compared to satisficing patients, maximizing patients exhibited higher vigilance toward both doctors' medical competence and ethics. Second, moral disengagement mediated this relationship, whereby maximizing patients were more inclined to use moral disengagement cognitive strategies to justify their high vigilance toward doctors. Finally, doctors' friendly behavior moderated this mediating mechanism. When doctors exhibited friendly behavior, maximizing patients' vigilance toward doctors did not decrease but instead increased through intensified moral disengagement. Combining field surveys and experimental manipulations, this study provides robust evidence for the theoretical model.

5.1 Theoretical Contributions

This study's theoretical contributions are mainly reflected in four aspects. First, it is the first to link maximizing decision-making with patient vigilance toward doctors, significantly expanding the scope and topics of vigilance research. On one hand, previous research has focused more on individuals' vigilance in interactions with strangers (Zhao et al., 2023) or close others (Li et al., 2015), while doctor-patient relationships differ from both stranger and close relationships in trust foundations, emotional connections, and interaction patterns (Haidet et al., 2002; Street et al., 2009). This study extends vigilance research to the doctor-patient interaction domain, revealing patients' vigilance psychology toward doctors' competence and ethics and its specific manifestations. On the other hand, research shows that social environmental factors (Li et al., 2015; Liu et al., 2019) and individual personality traits (Mogg & Bradley, 1998; Rose et al., 2002; Tang et al., 2017) significantly influence vigilance states. This study provides a new decision-making characteristic perspective for vigilance influencing factor research by revealing maximizing decision-making's enhancing effect on patient vigilance, further enriching vigilance research themes.

Second, this study also enriches maximizing decision-making research in interpersonal communication by revealing its effect on patient vigilance. Maximizing research has primarily focused on differences in decision-making characteristics (e.g., option numbers, decision outcomes, and experiences) between maximizers and satisficers (Chowdhury et al., 2009; Iyengar et al., 2006; Luan & Li, 2017, 2019; Ma & Roese, 2014; Polman, 2010). Only minimal research has explored how others treat maximizing decision-makers, finding that maximizers are perceived as lacking warmth, receive less social support, and thus suffer a "maximizing penalty" (Chen et al., 2023). This study reveals that maximizing decision-making significantly affects how individuals treat others—that is, maximizing patients perceive greater threats from doctors and exhibit higher vigilance—further enriching maximizing decision-making research perspectives in interpersonal communication. This result also explains why maximizing decision-making negatively correlates with well-being, optimism, self-esteem, and life satisfaction, while positively correlating with depression (Bru-

ine de Bruin et al., 2007; Schwartz et al., 2002). Since maximizers have higher vigilance, and high vigilance-induced tension significantly reduces well-being (Carver & Scheier, 2014), maximizers have lower well-being.

Third, based on moral disengagement theory, this study systematically reveals the psychological mechanism through which maximizing decision-making affects patient vigilance: moral disengagement. Previous research has pointed out that resource competition with others (Cheng et al., 2021; Liu et al., 2019; Zhao et al., 2023) or harm from others (Li et al., 2015) are mechanisms of vigilance formation. This study expands vigilance research's moral pathway by excavating vigilance's moral attributes and clarifying moral disengagement's mediating mechanism, deepening understanding of vigilance's psychological causes. Moreover, previous research has primarily viewed moral disengagement as a mechanism for individual immoral behavior (e.g., Moore et al., 2012), with only few studies exploring its role in non-morally relevant behaviors, such as job insecurity promoting turnover behavior through moral disengagement (Huang et al., 2017). This study provides empirical support for moral disengagement driving other behaviors beyond moral domains by revealing it as the psychological mechanism of patient vigilance toward doctors, breaking through the theory's usage boundaries and expanding its applicable contexts.

Finally, this study introduces doctors' friendly behavior as a moderator of the psychological mechanism through which maximizing decision-making affects patient vigilance via moral disengagement. Although people generally believe doctors' friendly behavior benefits doctor-patient relationships (Kim et al., 2020; Street et al., 2009), this study found it may have counterproductive effects: doctors' friendly behavior not only failed to reduce maximizing patients' vigilance but instead strengthened the positive relationship between maximizing decision-making and moral disengagement, thereby exacerbating patient vigilance toward doctors. This result echoes Liu et al.'s (2019) research that Chinese people are more likely to interpret friendly behavior as hypocrisy in ambiguous situations, while providing new empirical evidence for potential negative effects of friendly behavior (Cialdini & Goldstein, 2004).

5.2 Practical Implications

This study offers positive practical insights for preventing doctor-patient conflicts. Compared to post-conflict resolution, the importance of pre-conflict prevention is increasingly prominent, which has been institutionally embodied in the State Council's "Regulations on the Prevention and Settlement of Medical Disputes" (2018). Patient vigilance toward doctors, as a key "psychological latent risk" in doctor-patient relationships, is the focus of prevention efforts. Patients' maximizing decision-making characteristics, as effective indicators for identifying and predicting their vigilance, have important practical significance for effective prevention implementation. Specifically, when constructing doctor-patient conflict prevention and early warning systems, medical institutions should not only focus on patients' interaction characteristics (e.g.,

agreeableness; Köther et al., 2022) but also fully value and incorporate patients' maximizing decision-making characteristics. Meanwhile, administrative departments can include the impact of patient characteristics (including maximizing decision-making) on doctor-patient interaction as important content in doctors' communication training. Additionally, research shows individuals' maximizing orientation can be adjusted through questioning methods (e.g., Zhu et al., 2019), so doctors can use communication methods such as explanation and examples to guide patients to appropriately reduce maximizing orientation during interactions, thereby weakening vigilance and resolving "psychological latent risks," nipping doctor-patient conflicts in the bud.

Based on the mediating effect of moral disengagement, interventions to reduce patients' excessive vigilance can be developed starting from its cognitive strategies. Specifically: emphasize that the vast majority of doctors uphold professional ethics of healing the wounded and saving lives, helping patients establish rational cognition and eliminate unnecessary defensive psychology; clarify the negative impact of excessive precaution on medical staff's psychological experience and doctor-patient mutual trust, guiding patients to recognize its potential harm; share real cases where doctors demonstrate empathy and humanistic care, breaking patients' stereotypical impressions that doctors are to blame. Moreover, when doctors exhibit friendly behavior, they should supplement it with clear and specific explanations to avoid misunderstandings caused by information asymmetry. This "words and deeds combined" communication approach helps convey goodwill, eliminate doubts, promote harmonious doctor-patient relationships, and build a benign interactive medical environment.

5.3 Limitations and Future Directions

This study found that maximizing patients showed similar vigilance levels toward doctors' competence and ethics, while satisficing patients showed greater concern for ethics. This finding differs from traditional social cognition perspectives. Traditional views hold that people value warmth traits more than competence traits when perceiving others (Wojciszke, 2005), while this study's maximizing patients seemed to contradict this conclusion. This may stem from differences in interest relevance in interpersonal relationships: in traditional research, individuals value others' warmth more than competence because they can directly benefit from others' warmth but less from others' competence (Shang et al., 2021); whereas maximizing patients pursue optimal treatment plans and best treatment outcomes, fundamentally benefiting from both doctors' competence and ethics, thus maintaining high vigilance toward both. This explanation may be generalizable to other relationship contexts. For example, individuals focus more on competitors' morality (Fiske et al., 2002) but value intimate partners' competence more (Eastwick et al., 2014), possibly because they respectively benefit from competitors' morality and intimate partners' competence. Future research should test this finding in more diverse and special interpersonal contexts to deepen related conclusions.

This study primarily measured patient vigilance toward doctors by examining patients' subjective predictions of target doctors' possible behaviors in medical scenarios. Although this method can deeply capture patients' specific thoughts (e.g., what behaviors and motives they are vigilant about), providing important basis for understanding deep causes of vigilance while eliminating common method bias, considering vigilance has significant physiological characteristics, future research can combine physiological indicators for more comprehensive measurement. For example, heart rate variability, skin conductance signals, or multimodal physiological signals (Ding et al., 2022) can quantify vigilance. Additionally, behavioral indicators can serve as effective supplements, such as patients changing hospitals or doctors, consulting multiple times through connections, checking doctors' reputations through multiple channels before consultation, and verifying doctors' recommendations through multiple means after consultation. These indicators not only reduce measurement difficulty but also transform categorical data into continuous data, providing richer analytical dimensions. Future research can integrate subjective predictions, physiological indicators, and behavioral indicators to explore patient vigilance toward doctors from multiple dimensions.

This study did not examine potential moderating effects of certain external factors on the strength of maximizing decision-making effects. For example, high-quality medical resources in high-level hospitals may alleviate patients' vigilance toward competence, while low relational mobility (Yuki et al., 2007) and social network stability in some regions (Friedman, 1991) may enhance patients' psychological security, both potentially weakening maximizing decision-making's effect strength. Future research needs to deeply explore these moderating factors to more comprehensively understand maximizing decision-making's mechanism. Moreover, beyond vigilance, other psychological phenomena in doctor-patient interaction such as role ambiguity (Gao, 2023) and competitive victimhood (Deng et al., 2023) also deserve attention, requiring expanded exploration of whether maximizing decision-making has similar effects in these psychological hazards. Simultaneously, further examining influence paths of other patient characteristics and doctor characteristics on vigilance will help more systematically reveal complex psychological mechanisms of doctor-patient interaction.

6. Conclusion

This study systematically explored the effect of maximizing decision-making on patient vigilance and its psychological mechanisms and moderating effects through three studies. Results showed that maximizing decision-making significantly increased patient vigilance toward doctors; moral disengagement mediated the relationship between maximizing decision-making and patient vigilance; and doctors' friendly behavior not only failed to reduce maximizing patients' vigilance but instead further exacerbated their vigilance toward doctors through moral disengagement mechanisms.

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Appendix 1: Patient Vigilance Toward Doctors Measurement (Without Friendly Behavior)

Hello, next you will read 8 typical medical scenarios that people often encounter in daily life. What do you think the doctor would do in this situation?

(1) Dr. Wang is an orthopedic surgeon about to perform an extremely technically difficult and complex surgery for a patient. In this situation, what behaviors do you think Dr. Wang might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(2) Dr. Zheng is a general practitioner who occasionally encounters patients with rare diseases during consultations. In this situation, what behaviors do you think Dr. Zheng might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(3) Dr. Xiao is an emergency physician who needs to work night shifts to respond to emergencies promptly. In this situation, what behaviors do you think Dr. Xiao might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(4) Dr. Sun is a nephrologist who sees a very large number of patients daily with extremely high workload. In this situation, what behaviors do you think Dr. Sun might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(5) Dr. Shen is a respiratory physician who needs to prescribe corresponding medications based on diagnosis. In this situation, what behaviors do you think Dr. Shen might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(6) Dr. Li is a general surgeon who received a private red envelope from a patient before a surgery. In this situation, what behaviors do you think Dr. Li might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(7) Dr. Liang is an ICU physician with authority to allocate extremely limited special-effect medications. In this situation, what behaviors do you think Dr. Liang might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

(8) Dr. Pan is a dermatologist who sometimes treats local government officials. In this situation, what behaviors do you think Dr. Pan might exhibit? (List at least 2 possible behaviors): Possible behavior 1: Possible behavior 2: Possible behavior 3:

Appendix 2: Patient Vigilance Toward Doctors Measurement (With Friendly Behavior)

Hello, next you will read 8 medical scenarios that people often encounter in daily life. How likely do you think the doctor is to engage in behaviors that harm patients' interests?

(1) Dr. Wang is an orthopedic surgeon about to perform an extremely technically difficult and complex surgery for a patient. Dr. Wang explained key surgical steps, potential risks, and possible consequences in detail before surgery. How likely do you think Dr. Wang is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(2) Dr. Zheng is a general practitioner who occasionally encounters patients with rare diseases during consultations. Dr. Zheng spends a long time asking and recording patients' personal characteristics, medical history, lifestyle habits, and uncomfortable symptoms in detail. How likely do you think Dr. Zheng is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(3) Dr. Xiao is an emergency physician who needs to work night shifts to respond to emergencies promptly. Dr. Xiao arranged for an intern to assist with nighttime diagnosis and treatment work. How likely do you think Dr. Xiao is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(4) Dr. Sun is a nephrologist who sees a very large number of patients daily with extremely high workload. Dr. Sun asks patients to describe their uncomfortable symptoms in as much detail as possible and patiently explains possible causes and treatment plans. How likely do you think Dr. Sun is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(5) Dr. Shen is a respiratory physician who needs to prescribe corresponding medications based on diagnosis. Dr. Shen chose the latest developed and more effective special medication when writing prescriptions. How likely do you think Dr. Shen is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(6) Dr. Li is a general surgeon who received a private red envelope from a patient before a surgery. Dr. Li tactfully declined the patient's red envelope and guaranteed to do his best in the surgery. How likely do you think Dr. Li is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(7) Dr. Liang is an ICU physician with authority to allocate extremely limited special-effect medications. Dr. Liang reserved medication in advance for a critically ill patient based on professional and fair principles. How likely do you think Dr. Liang is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

(8) Dr. Pan is a dermatologist who sometimes treats local government officials. Dr. Pan patiently explained medical diagnosis and treatment plans to a patient in an amiable attitude and accessible language. How likely do you think Dr. Pan is to engage in behaviors that harm patients' interests?

Completely impossible Very likely

Note: Figure translations are in progress. See original paper for figures.