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EXAMINATION OF PATIENT-PHYSICIAN RELATIONSHIP AMONG
COLLEGE STUDENTS

by

ARCHI PATEL

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Psychology
in the College of Sciences
and in The Burnett Honors College
at the University of Central Florida
Orlando, Florida

Fall Term

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Thesis Chair: Dr. Shahram Ghiasinejad, Ph.D.

ABSTRACT

The patient-physician relationship is established when a doctor provides care for their patient. This interpersonal interaction consists of perspectives on health issues, treatment plans, confidentiality, and support. Trust is also a component of the patient-physician relationship. Existing findings show that patient-physician trust is critical for achieving compliance and higher satisfaction rates with medical care (Cohen, 2002). This study examines the role of emotional intelligence, health locus of control, religious locus of control, and vulnerability relating to patients' perspective of trusting their physician among college students. Participants included 255 of psychology undergraduates at a large public university with a diverse student population. Participants completed an online survey consisting of multiple questionnaires assessing the study variables. Consistent with existing literature, we found that higher scores on emotional intelligence, internal health locus of control, and ease of vulnerability were associated with higher levels of patient-physician trust. However, a significant association between religious locus of control and patient-physician trust was not found. Our results also showed that emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability, collectively predicted the patient-physician trust relationship. These findings regarding patients from the population of college students can inform college administrators to develop and implement plans to enhance the quality of care that physicians provide for college students. Further research can be conducted to explore ways to optimize these factors and ultimately to improve the patient-physician relationship.

DEDICATION

I dedicate this thesis to my family for their unconditional support in all of my endeavors pursuing medicine. I am also grateful for the clinical opportunities and the patient-physician encounters I have observed. It is the inspiration for my research. I thank my family and clinical mentors for all that they do to ignite my passion for healthcare.

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INTRODUCTION

The patient-physician relationship is established when a doctor provides care for their patient. This interpersonal interaction consists of perspectives on health issues, treatment plans, confidentiality, and support. It has been legally defined as “a consensual relationship in which the patient knowingly seeks the physician's assistance and the physician knowingly accepts the person as a patient” (QT, Inc. v. Mayo Clinic Jacksonville, 2006). Physicians are influential in deciding if, when, and how healthcare services are delivered, and the balance of power is tipped in favor of the physician (Rajasoorya, 2018). Patients are, therefore, vulnerable when they entrust physicians with their health and lives (Ridd, Shaw, Lewis, & Salisbury, 2009). As there is an asymmetrical relationship of power between physician and patient, communication and trust are vital for successful outcomes. A physician's obligations consist of informing the patient of the medical condition, providing optimal treatment, referring the patient to an appropriate specialist if necessary, and obtaining the patient's informed consent for medical treatment or surgery.

According to Hanovar (2018), the depth of patient–physician relationship that governs patient satisfaction has four vital aspects – trust, knowledge, regard, and loyalty. Those who trust that the physician has their best interest in mind have the highest level of satisfaction. Patients report a high level of satisfaction when the physician allows the patient to also share information when discussing, is knowledgeable, and specifically addresses their concerns. Regard encompasses the perception of the physician's friendliness, warmth, emotional support, and care. Regard is directly associated with patient satisfaction (Hanovar, 2018). Loyalty in the patient-physician relationship is represented by continuity of care and it ultimately improves patient satisfaction.

Trust in Physician

Trust is one of the components of the patient-physician relationship. Patient-physician trust is a critical factor in achieving compliance and higher satisfaction rates with medical care (Cohen, 2002). Trust is a defining element in any interpersonal relationship but is particularly central to the patient-physician relationship. Some theorists consider patient trust to be a “set of beliefs or expectations that a physician will behave in a certain way” (Anderson, 1990, p. 509). Other researchers have stressed a more affective nature of trust, identifying patient trust as a “reassuring feeling of confidence or reliance in the physician and the physician's intent” (Caterinicchio, 1979, p. 82). The definition of trust within the patient-physician relationship is contingent upon several characteristics. The most commonly described dimensions of physician behavior on which patients base their trust are competence, compassion, privacy and confidentiality, reliability and dependability, and communication (Mechanic & Schlesinger, 1996). Thom and Campbell (1997) identified five interpersonal categories encompassing these dimensions of physician behavior: understanding patient's individual experience, expressing care, communicating clearly and completely, building partnership/sharing power, and honesty/respect for the patient. Patient-physician trust is crucial for successful health outcomes and an overall positive experience of care.

Historically, the patient-physician relationship has depended on the medical situation and the sociopolitical and intellectual-scientific climate at the time (Kaba & Sooriakumaran, 2007). Szasz and Hollender (1956) proposed three basic patient-physician relationship models: activity-passivity, guidance-cooperation, and mutual participation. Activity-passivity theory and the guidance-cooperation model stem from medical paternalism. The mutual participation approach is focused more on patient-centered medicine and is practiced more in current times. More

recently, the role of the patient has been advocated to be more active and autonomous. It involves increased patient control, reduced physician dominance, and more mutual participation (Kaba & Sooriakumaran, 2007). The patient-physician relationship is fluid and relevant to quality healthcare. It is imperative that there is mutual trust between the patient and physician to promote satisfaction with medical care.

Emotional Intelligence

Emotional intelligence stems from social intelligence and is therefore relevant to guiding adaptive and purposive behavior (Thorndike & Stein, 1937). Mayer and Salovey (1997) define the emotional intelligence construct as (a) appraisal and expression of emotion in oneself, (b) appraisal and recognition of emotion in others, (c) regulation of emotion in oneself, and (d) use of emotion to facilitate performance. Emotional intelligence is pertinent to one's ability as a service provider. In this study, a service provider is defined as an individual health professional who provides a health related service. Service providers with high scores of emotional intelligence receive higher customer satisfaction scores (Kernbach & Schutte, 2005). As physicians are one type of professional service provider, Weng (2008) investigated if this concept applied to the patient-physician relationship. Among 983 outpatients and 39 physicians representing 11 specialties, a survey was conducted to compare the physician's emotional intelligence and the patient's ratings of trust, number of follow-ups, and satisfaction with the care provided. Weng (2008) concluded a significantly positive relationship between the physician's emotional intelligence and the ratings they received from their patients.

Another study addressing emotional intelligence in the context of patient-physician relationship investigated the correlation between a physician's emotional intelligence and medicolegal cases. Most malpractice claims are a result of adverse events. These adverse events

may or may not be from medical errors. Annually, approximately 8% of physicians experience a malpractice claim. The researchers point out that not all of these medicolegal cases are a result of medical errors (Shouhed, Beni, Manguso, Ishak, & Gewertz, 2019). This study is relevant because it claims some medicolegal cases may be associated with the individual nature of the patient-physician relationship. Shouhed states that the strength of this relationship may be partially determined by the physician's emotional intelligence. This observational review shows that the ability to monitor and regulate his or her emotions as well as the emotions of others is pertinent to the patient-physician relationship. There is an indirect negative correlation between a physician's level of emotional intelligence and his or her risk of litigation (Shouhed et. al, 2019). Shouhed's literature review is relevant to the current study as it provides the background for the role of emotional intelligence in patient-physician trust. This study will use Wong's survey and investigate this phenomenon from the patient's emotional intelligence perspective. Study participants will indicate their level of emotional intelligence, and it will be compared to their viewpoint of patient-physician trust.

Health Locus of Control

Health locus of control refers to the extent to which one believes their health is controlled by internal or external factors. Those with an internal health locus of control believe their actions are responsible for their health. On the other hand, those with an external health locus of control believe external forces outside of their influence control their health. People have varying degrees of internal or external health locus of control. For those with chronic illness, the patient-provider relationship has shown a specific influence on treatment adherence. Patients who have poorer relationships with their health care providers are less likely to adhere to treatment regimens (O'Brien, Petrie, & Raeborun, 1992). A study by Brincks, Feaster, Burns, & Mitrani,

(2010) used the Trust in Physician scale and Health Locus of Control (HLOC) scale to investigate the relationship in the population of women with HIV compared to women without HIV. Individuals with HIV had significantly higher levels of trust in physicians and powerful others HLOC when compared with individuals who did not have HIV (Brincks et al., 2010). Health locus of control can be related to patient-physician trust in the context of HIV, a stigmatized condition. This study aims to investigate this concept in college students without the narrow scope of HIV.

Patient-physician trust is also linked to higher medication adherence (Gabay, 2015). Higher medication adherence is an indicator of internal health locus of control and eventually leads to better patient outcomes and satisfaction. Gabay (2015) performed a cross-sectional study on a representative sample of 820 Israeli respondents with identical healthcare plans to investigate the contribution of patient perceived control over health to the explained variance in patient-physician trust. Patient perceived control over health is synonymous to an internal health locus of control. The study concluded when perceived control over health was high and patients participated in communication, trust was higher (Gabay, 2015). In other words, there is a positive correlation between a patient's health locus of control and patient-physician trust. Gabay specifically pointed out that the goal of communication with patients is to focus on the enhancement of patient perceived control over health. Gabay's study adds to the groundwork of investigating health locus of control in patient populations. This study is focusing on researching a similar relationship within the college student patient population.

Religious Locus of Control

Religious locus of control is a related idea to the health locus of control. However, the difference is that instead of examining the extent to which one believes their health is controlled

by internal or external factors, religious locus of control is specifically examining the extent to which one believes God or a higher power holds control over one's health. The God locus of control is the measure used in existing literature to represent one's religious locus of control. Therefore, the terms are essentially interchangeable. For many people, the influence of believing in a higher power can elicit powerful effects. A study examined the relationship between God control, health locus of control, and frequency of religious attendance within 838 college students through online surveys (Boyd & Wilcox, 2017). Boyd and Wilcox (2017) concluded that external health locus of control and frequency of religious attendance was significant and positively correlated to the God Locus of Health Control. The association of external health locus of control and God Locus of Control differed by demographics as well. The study concluded that the association varied depending on gender and ethnicity. It was a more robust association in non-Whites than Whites and somewhat stronger in women than men. Additionally, another study examined whether three types of attachment to God - secure, avoidant, and anxious - were associated with health-risk behaviors, over and above the effects of religious attendance, peer support, and demographic covariates, in a sample of 328 undergraduate college students (Horton, Ellison, Loukas, Downey, & Barrett, 2012). Avoidant and anxious attachment to God were found to be associated with higher levels of drinking. These patterns are gender-specific as Horton's study concluded avoidant and anxious attachment to God are linked with adverse outcomes primarily among men and not among women. Health outcomes are related to the patient-physician relationship. Olagoke, Olagoke, and Hughes (2021) also found a significantly negative association between religiosity and COVID-19 vaccination intention. Olagoke et. al (2021) surveyed 500 participants regarding their religious affiliation and religiosity. The results show one's religious perspective can impact their health outcome. Olagoke recommends further

research on the role of religion in trust and states collaborative efforts with religious institutions may influence COVID-19 vaccine uptake (Olagoke et. al, 2021). Therefore, based on the existing literature, an association could be present among God Locus of Control and patient-physician trust.

Ease of Vulnerability

Ease of vulnerability is the idea that there are different extents to which one is willing to be vulnerable. Vulnerability is how willing one is comfortable opening up and sharing their thoughts and emotions with others. A person with high ease of vulnerability is typically secure in their relationships. In contrast, a person with low ease of vulnerability is more likely to be distrustful of others. In the context of patient-physician trust, it is therefore relevant that a person with high ease of vulnerability is more likely to trust their physician. Despite the crucial importance of patient-physician trust, it may be compromised among at risk patient populations, such as incarcerated patients and those patients who have been victims of trauma (Junewicz, Kleinert, & Dubler, 2017). Incarcerated patients and victims of trauma are likely to have low ease of vulnerability when speaking with their physician. They are understandably more likely to be distrustful of others given their circumstances.

Additionally, patients who abuse substances or experience delusional infestation may not disclose their substance misuse to their doctors (Wong & Bewley, 2011). Delusional infestation is a rare disorder in which one has fixed, false beliefs that they are infected with living organisms. Delusional infestation can be caused by substance misuse. Patients who misuse substances are an example of another at risk population who are more likely to have low ease of vulnerability. Patients who misuse substances are less likely to trust their physician and disclose all relevant information to their provider. One can understand that patient-physician trust is a

multi-faceted topic. A study was conducted with 130 recently diagnosed cancer patients to assess attachment style in interpersonal relationships in the person's life. Researchers Holwerda et al. (2013) concluded insecurely attached patients reported less trust in and satisfaction with their physician. Three and nine months after diagnosis, insecurely attached patients also reported more general distress than securely attached patients. Attachment theory is relevant because it presents a framework to interpret differences in patients' trust, satisfaction, and distress. Attachment theory implications may help physicians respond more effectively so that their patients feel secure. This is subsequently expected to result in better health outcomes (Holwerda et al., 2013). This study shows that attachment style is related to the patient-physician relationship. Another similar study with 193 patients diagnosed with Lupus also demonstrated this relationship. The participants completed measures of the Physician–Patient Alliance Inventory, Experiences in Close Relationships Scale , General Adherence Inventory, and the Medical Patient Satisfaction Questionnaire (Bennett, Fuertes, Keitel, & Phillips, 2011). The most relevant finding from this study is attachment avoidance was significantly and negatively related to adherence, and attachment anxiety was significantly and negatively related to health-related quality of life (Bennett et. al, 2011). Attachment theory is relevant to ease of vulnerability because those with a secure attachment style are more likely to have a high ease of vulnerability. On the other hand, those with anxious and avoidant tendencies are likely to have a low ease of vulnerability as they are more distrusting in relationships. This study focuses specifically on the relation that high ease of vulnerability is a desired predictor of high patient-physician trust. Therefore, the existing literature establishes that ease of vulnerability in a relationship is relevant to patient-physician trust and subsequent outcomes.

The Current Study

The primary purpose of this study is to explore patient-physician trust dynamics in college students across varying demographics (gender differences, race, ethnicity, etc.), for emotional intelligence, health locus of control, religious locus of control, and vulnerability relating to student perspective of trusting their physician. A review of the existing literature and identified gaps in research led me to the research question: To what extent is patient-physician trust related to the patient's emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability among college students?

The following hypotheses are proposed:

1. Hypothesis 1: Emotional intelligence will positively correlate with the trust in their physicians in college students.
2. Hypothesis 2: College students' internal locus of control will positively correlate with their trust in their physician.
3. Hypothesis 3: College students' religious locus of control will negatively correlate with their trust in their physician.
4. Hypothesis 4: College students' high ease of vulnerability will positively correlate with their trust in their physician.
5. Hypothesis 5: Emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability, will collectively predict the patient-physician trust as measured by the Trust in Physician scale.

METHODS

Participants

This study recruited 255 undergraduate students, 53 of which were excluded due to survey incompleteness or answering “No” to the preliminary filter questions about going to a physician and having a professional relationship with them. As this study is assessing a participant’s relationship with their physician, participants who indicated “No” to the question “if they have a relationship with a physician” were excluded. Also, if participants chose “Never” to the question about “how recently they have seen a physician”, they were directed to the end of the survey and did not see the rest of the survey questions.

Of all participants who completed the survey ($N = 202$), there were ($n = 72, 35.57\%$) males and ($n = 126, 62.45\%$) females, while 1.58% ($n = 3$) identified their gender identity as non-binary, 0.40% ($n = 1$) identified as a transgender male and 0.0% ($n = 0$) identified as a transgender female. The age of participants ranged from 18 to 39 ($M = 20.71, SD = 3.50$), most were age 18 ($n = 35$) and age 19 ($n = 63$). The ethnicity distribution was Caucasian ($n = 101, 50.19\%$), followed by Latinx or Hispanic ($n = 48, 23.94\%$), Asian ($n = 20, 10.04\%$), African American (9.65%), Native Hawaiian or Pacific Islander (0.0%), and Mixed ethnicity or Other (6.18%). Since, this survey was assessing patient-physician relationship 80.24% ($n = 202$) of participants indicated “Yes” they have an active, professional relationship with a physician. The remaining 19.76% ($n = 50$) of participants were excluded from further survey questions and subsequent data analysis. The participating undergraduates reported their last encounter with a physician or medical professional within the past one month ($n = 63, 31.2\%$), three months ($n = 37, 18.3\%$), six months ($n = 40, 19.8\%$), one year ($n = 40, 19.8\%$), and five years ($n = 21, 10.4\%$), or more than five years ($n = 1, 0.5\%$).

Measures

Trust in Physician Scale. The 11-item Trust in Physician (TPS) scale (Anderson & Dedrick, 1990) is a universal scale used to assess patients' views of their physician. The 11 statements are scored on a six-point Likert scale that ranges from 1 (strongly disagree) to 6 (strongly agree). For example, one statement is, "I feel my doctor does not do everything he/she should for my medical care" (Appendix D). The participant can indicate their perspective as a patient, the extent to which they trust their physician has their best interest in mind. This study will compare various factors to the participant's perspective as a patient of patient-physician trust. Findings from two studies are reported to validate the Trust in Physician scale. The first study consisting of 160 participants provided preliminary support for the reliability (Cronbach alpha = 0.90) and construct validity of the 11-item scale (Anderson & Dedrick, 1990). The second study, which was a replication study of 106 participants, supplied further evidence of the reliability and validity of the scale. The Cronbach alpha value was determined to be 0.85 (Anderson & Dedrick, 1990). In this study, the Cronbach's alpha was determined to be 0.86.

Wong and Law Scale of Emotional Intelligence. The Wong and Law scale of Emotional Intelligence (Wong & Law, 2002) is a self-report measure (Appendix D). The 16 questions are scored on a six-point Likert scale that ranges from 1 (strongly disagree) to 6 (strongly agree). For example, one statement is, "I have a good understanding of the emotions of people around me" (Appendix D). The participant can indicate their self-reported extent of emotional intelligence. The 16 statements are each related to a sub-topic, one of four dimensions: Self-Emotion Appraisals, Others' Emotion Appraisals, Use of Emotion, and Regulation of Emotion. Sample items are as follows: "I am quite capable of controlling my own emotions" (Regulation of Emotion), "I always know whether or not I am happy" (Self-Emotion Appraisals), "I am

sensitive to the feelings and emotions of others” (Others' Emotion Appraisals), and “I always tell myself I am a competent person” (Use of Emotion). This study will compare the participant's overall emotional intelligence to their degree of patient-physician trust.

To validate the reliability of the Wong and Law Scale of Emotional Intelligence a total of 1160 volunteers (mean age = 24.19 ± 5.22 years, 636 females) completed the questionnaires. The majority of the participants had completed university, college or postgraduate studies (70.6%). The sample was split into three age groups: the first group consisted of 187 teenagers aged between 13 and 19 ($M = 16.75$, $SD = 1.96$, 95 females). The second group consisted of 852 young adults aged between 20 and 30 ($M = 24.38$, $SD = 2.87$, 472 females). The third group consisted of 121 adults aged between 31 and 40 ($M = 34.35$, $SD = 2.93$, 69 females). With regard to age groups, the results showed that young adults had higher mean scores on Self-Emotion Appraisals and Use of Emotion than teenagers. Additionally, adults had higher mean scores on Use of Emotion than teenagers. No significant differences were obtained between the young adults and adult groups. The population of participants relevant to this study is most frequently in the teenager and young adult age groups. The Cronbach's alpha values of Wong and Law scale of Emotional Intelligence subscales ranged from 0.74 to 0.87 demonstrating reliability of this measure (Kong, 2017). In this study, the Cronbach's alpha was determined to be 0.90.

Health Locus of Control Scale. The Health Locus of Control scale identifies where one's perspective lies with health being influenced by their personal actions, external influences, or another factor (Wallston, Wallston, & DeVellis, 1978). The 18 questions are scored on a six-point Likert scale that ranges from 1 (strongly disagree) to 6 (strongly agree). The Health Locus of Control scale provides scores for three dimensions: internal, chance, and powerful others. The "powerful others" items are specified to be primarily physicians. For example, one statement is,

"No matter what I do, if I am going to get sick, I will get sick" (Appendix D). The participant can indicate their views on their health being more in their personal control or by external influences. This study aims to compare their health locus of control to their extent of patient-physician trust. To determine if the Health Locus of Control scale had an acceptable reliability a study was completed with 4842 participants. In this study, 2388 men and 2454 women aged 40-79 years, completed a questionnaire regarding socio-demographics, health-related behavior, such as smoking and drinking, and the Health Locus of Control scale. The Cronbach alpha of the Health Locus of Control scale indicating the internal consistency of the scale was within the range 0.62-0.76. Elderly participants and participants with fewer years of education showed more "external" belief, which is generally consistent with previous literature. Subjects with adverse health behavior, such as smoking and excess drinking, also had more "external" beliefs. According to Kuwahara et al. (2004), these results demonstrate that the Health Locus of Control scale has sufficient reliability and validity. In this study, the Cronbach's alpha was determined to be 0.76.

God Locus of Health Control Scale. The God Locus of Health Control (GLHC) Scale (Wallston et al., 1978) is the widely-accredited scale that measures one's sense of their health controlled by religious factors or non-religious factors. The six questions are scored on a six-point Likert scale that ranges from 1 (strongly disagree) to 6 (strongly agree). For example, one statement is, "Whatever happens to my health is God's will" (Appendix D). The participant can indicate their religious views on health, and this study will compare their religious locus of control to their extent of patient-physician trust. To determine if the God Locus of Health Control scale had an acceptable reliability a study was completed with 200 women in Iran whom with family members were affected by breast cancer. Among women with family history of breast cancer, the God Locus of Health Control's reliability was assessed. Hashemian et. al

(2014) predesigned questionnaires that were completed through interviews. Content and face validity was evaluated using the opinions of a panel of experts, and construct validity was confirmed by applying confirmatory factor analysis (Hashemian et. al, 2014). Hashemian's results demonstrated the God Locus of Health Control scale had an acceptable reliability. The Cronbach's alpha value was 0.9 for the God Locus Health Control questionnaire. In this study, the Cronbach's alpha was determined to be 0.97.

Vulnerable Attachment Style Questionnaire. The Vulnerable Attachment Style Questionnaire (VASQ) (Bifulco, Mahon, Kwon, Moran, & Jacobs, 2003) measures attachment style and is validated by the existing Attachment Style Interview scale (ASI). The Vulnerable Attachment Style Questionnaire (VASQ) was developed as a brief, self-report tool to assess adult attachment style. The VASQ is based on The Attachment Style Interview (ASI) which is an investigator-based interview that assesses respondents' attachment styles on the basis of their ability to make and maintain supportive relationships along with attitudes about closeness/distance from others and fear/anger in relationships. Respondents are presented with items related to how they feel about other people, for example "I miss the company of others when I am alone." The 22 questions are scored on a five-point Likert scale that ranges from 1 (strongly disagree) to 5 (strongly agree). For example, one statement is "I find it hard to trust others" (Appendix D). The participant can indicate their ease of vulnerability, and this study will compare their ease of vulnerability to their extent of patient-physician trust.

The VASQ yields two subscores: an insecurity score (12 items), and a proximity-seeking score (10 items), along with a total vulnerable attachment score (22 items). In all cases, higher scores on the VASQ represent more vulnerable attachment styles. The Vulnerable Attachment Style Questionnaire was validated against the Attachment Style Interview with 262 participants.

A Cronbach's alpha value was reported with respect to each of the two subscales. The Cronbach's alpha value for the 12 insecurity scale items was 0.82 and for the 10 proximity-seeking items it was 0.67 which demonstrates the reliability of the VASQ (Bifulco et al., 2003). In this study, the Cronbach's alpha was determined to be 0.84.

Procedure

Participants from the University of Central Florida completed a survey through the UCF Psychology Research Participation System (SONA). Anonymous surveys will be administered to UCF students as a way for them to receive extra credit in their class. The sample will consist of UCF students who are enrolled in psychology courses. The survey takes approximately 30 minutes to complete.

Upon approval from the Institutional Review Board, this study used the aforementioned valid measures to test the hypotheses listed above. The full-length study began with a demographic questionnaire. The demographic questionnaire consisted of questions asking the participant to report their age, gender, ethnicity, whether they have a professional relationship with a physician, and when was their last encounter with their physician. Next, the participants indicated whether they 1 – strongly disagree to 7 – strongly agree with a series of statements on a Likert scale. Each measure had a section: Trust in Physician scale, Wong & Law Scale of Emotional Intelligence, Health Locus of Control Scale, God Health Locus of Control Scale, and Vulnerable Attachment Style Scale. The survey ended with credit for completion. At any time, participants could withdraw from the survey. The Qualtrics survey was available to students via an online UCF Psychology Research participation program: SONA. The SONA system generated unique identification numbers for participants to preserve confidentiality. The survey was utilized to determine the participant's extent of patient-physician trust, emotional

intelligence, health locus of control, religious locus of control, and ease of vulnerability. After completion, participants received 0.25 SONA course credits. Participant data was then analyzed using the Statistical Package for the Social Sciences (SPSS) program.

RESULTS

Preliminary and Descriptive Analyses

Preliminary and descriptive statistical analysis of all study variables were conducted to report the mean, range, and standard deviation for all study variables. This was followed by assessing demographic differences for each of the main study variables. Cronbach's alpha coefficients for all composite variables were reported. Correlation matrix with all study variables was also constructed. All tables are located in Appendix A. Table 1 displays the mean scores of each variable for all participants. The results of demographic differences among participants are included below.

Age. A Pearson r correlation coefficient analysis between age and trust in physician revealed no significant correlation, $r(200) = -.10, p = .168$. A Pearson r correlation found the relationship between age and emotional intelligence to be also not significant, $r(200) = .06, p = .383$. A series of additional Pearson r correlations analyses also found age to have no significant correlation with health locus of control, religious locus of control, and ease of vulnerability, $p > .05$ as shown in Table 3.

Gender. An independent-samples t-test analysis showed no significant gender differences with respect to trust in physician, $t(200) = -.64, p = .262$. Females ($M = 5.07, SD = .91$) and males ($M = 5.16, SD = .89$) had similar scores for trust in physician. Similarly, there was no gender differences for emotional intelligence, females ($M = 5.79, SD = .84$) and males ($M = 5.63, SD = .88$), $t(200) = -1.20, p = .112$. A series of additional independent-samples t-tests demonstrated no significant gender differences for health locus of control, religious locus of control, and ease of vulnerability as well, $p > .05$.

Ethnicity. A one-way analysis of variance (ANOVA) analysis was used to compare participants on the study variables on the basis of ethnicity. To examine if trust toward physicians varied as a function of ethnicity, the ANOVA analysis revealed no significant differences, $F(5, 198) = 1.53, p = .195$. Ethnicity (White, Hispanic, African American, Asian, Pacific Islander or other) served as the independent variables (IVs). Trust in physicians served as the dependent variable (DV). African American participants ($M = 5.46, SD = .737$) had the highest mean physician trust score as measured by the items on the Trust in Physician (TIP) scale. Participants who selected Mixed Ethnicity or Other ($M = 4.93, SD = 1.090$) demonstrated the lowest mean physician trust score as shown in Table 5. Some sample answers from these study participants included “Ashkenazi Jewish”, “Black and White”, and “Kabyle”.

Last Physician Encounter. A one-way analysis of variance (ANOVA) between last physician encounter and trust in physician revealed no significant difference in trust in physician across last physician encounter time, $F(5,198) = 0.325, p = .325$. Furthermore, as shown in Table 8, there were no significant differences between the last Physician encounter and the other main study variables. Last physician encounter was categorized in order of within the past one month, three months, six months, one year, and five years.

Main Analyses

Hypothesis 1 stated that emotional intelligence will positively correlate with the trust in their physicians in college students. Students representing the patient population with higher scores on the Wong and Law Emotional Intelligence scale also had higher scores on the Trust in Physician scale. The emotional intelligence of the student was positively associated with trust in physician ($r = 0.34, p < .001$) as shown in Table 2.

Hypothesis 2 stated that college students' internal locus of control will positively correlate with their trust in their physician. Our results showed the health locus of control of the student was significantly associated with trust in physician ($r = 0.33, p < .001$) as shown in Table 2.

Hypothesis 3 stated that college students' religious locus of control will negatively correlate with their trust in their physician. The religious locus of control measured by the God Locus of Control scale of the student was not significantly associated with their trust in physician ($r = -0.04, p = 0.543$) as shown in Table 2.

Hypothesis 4 stated that college students' high ease of vulnerability will positively correlate with their trust in their physician. The ease of vulnerability of the student was significantly associated with trust in physician ($r = 0.24, p < .001$) as shown in Table 2.

Hypothesis 5 stated that emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability will collectively predict the patient-physician trust as measured by the Trust in Physician scale. This hypothesis was tested using a hierarchical multiple regression analysis. The predictive variables were emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability. The criterion variable was the patient's trust in their physician. In step one, age and gender were entered as control variables. In step two, the predictive variables were entered. This regression analysis demonstrated 20.0% of variance in physician trust was explained collectively by the student's emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability score, $R^2 = .20, F(6,195) = 8.019, p < .001$, results can be found in Table 7. The statistically significant results of the hierarchical regression analysis were consistent with my hypothesis. The change in R^2 from Step 1 to Step 2 evaluates how much predictive power was added to the model by the addition of the predictive

variables in this study. R^2 increased from 1.3% to 20.0%. This represents the percent of variability accounted by the addition of the predictive variables in this study. Table 7 shows that health locus of control reached statistical significance $p < .001$. However, the other predictive variables: emotional intelligence, religious locus of control, and ease of vulnerability did not reach significance in the model predicting trust in physician.

Additional correlational analyses revealed that the emotional intelligence of the student was significantly associated with an internal health locus of control, ($r = 0.40, p < .001$). Similarly, there was a significant association between emotional intelligence of the student and their ease of vulnerability, ($r = 0.39, p < .001$). However, God Locus of Health control representing the patient's view of religion controlling their health did not have a significant association with any of the other main variables.

DISCUSSION

This study aimed to investigate patient-physician relationship among college students at a large metropolitan university. This study particularly examined the college student population of patients to further understand the intricacies of patient-physician relationship. To our knowledge, this is the first study to investigate the role of patient's emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability in patient's trust in their physician. However, patient-physician trust has been studied in multiple research studies (Mukhtar, 2017; Tanner, 2011; Ricci, 2008).

Participants were selected from a large university with a diverse student population. The college students partaking in this survey were most of age 18 and 19. These undergraduate freshman and sophomores represent a patient population typically near the beginning of a relationship with their primary care provider as they no longer visit a pediatrician.

This study found that as emotional intelligence of the patients increased, their trust in their physician also increased. Also as the patients' health locus of control was more internal, their trust in physician increased. Lastly, as the patients had a high ease of vulnerability, their trust in physician increased. Furthermore, these variables collectively predicted patient-physician trust. The results of this study provide additional insights for better understanding the complex nature of the patient-physician relationship. It is important to note that the results did not show a significant correlation between religious locus of control and patients' trust in their physician. This finding is also important regarding the discussion of religion's role in health settings.

Ethnicity and gender were not associated significantly with patients' trust in their physicians. There were no significant ethnic or gender differences in the participants' level of trust toward their physicians or for any of the predictive variables. However, one can note the

African-American participants had the highest mean level of trust in their physician.

Additionally, the participants who indicated “Mixed or Other” specifying their ethnicity had the lowest mean level of trust in their physician. A possible explanation for these trends is “Mixed or Other” ethnicity participants may belong to historically underrepresented groups. A study by Garcia, Hedwig, Hanson, Rivera, and Smith (2019) shows people of mixed or minority ethnicities are more likely to be at risk for mental health conditions. Additionally, a study by Gereke, Schaub, and Baldassari (2018) further distilled that people of a lower socioeconomic status, minorities, and immigrants have less social trust. Given the history of underrepresented groups being historically neglected by the medical system, it is possible a combination of factors leads to differences in physician trust based on patient ethnicity. On an individual level, a patient may also have a positive or negative perception of a physician and therefore trust based on experiences with family member or close friends’ health.

Additionally, our results showed that females are more likely to have a more recent physician encounter. This supports the existing research that women are more likely to be concerned for their health, have more visits, and higher cost of care (Bertakis, Azari, Helms, Callahan, & Robbins, 2000). Additionally, a study by Thompson et al. (2016) concluded women reported visiting their primary care provider for physical and mental health concerns more than men. Their study also concluded for both women and men, age, illness prevention, trust in physician, and chronic conditions were important factors in explaining this behavior. Therefore, it makes sense that in our study, the female participants generally had a more recent visit to their physician when compared to male participants. However, our results did not show a statistically significant difference in gender or last physician encounter for physician trust. This study is related to the existing claim that trust in physician is a factor in explaining health care-seeking

behavior across gender (Thompson et al., 2016). Our study further investigated this claim by representing health care-seeking behavior by “last physician encounter.” Females had a more recent last physician encounter therefore we can predict it is likely females exhibit more health care-seeking behavior.

Additionally, our results showed that the emotional intelligence of the student was significantly associated with an internal health locus of control. Similarly, there was a significant association of emotional intelligence of the student and their ease of vulnerability. Both correlations demonstrated positive relationships.

The correlations between emotional intelligence, health locus of control, religious locus of control, vulnerability attachment style, and patient perspective as represented by college students show the relationships between these predictive variables to trust in physician, the criterion variable. Our study concluded significantly positive correlations for trust in physician with the patient’s emotional intelligence, health locus of control, and ease of vulnerability among this student population. However, there was not a significant correlation for religious locus of control. From this, we can conclude that patient’s characteristics likely have an effect on the patient-physician relationship.

This study provides a unique perspective on understanding how college students feel regarding their relationship with their physician, the implications of this research show emotional intelligence, health locus of control, and ease of vulnerability are factors that help patients feel comfortable with their healthcare providers. The findings of this study can add to the existing knowledge on the patient-physician relationship and provide insight into a better understanding of the factors that contribute to optimal patient-physician trust and to extend the impact it has on

patient outcome, compliance, and satisfaction with care. This research helps to identify factors that may play a role in an increased level of patients' trust in their physician.

Findings of the study suggest that overall, the predictive variables: emotional intelligence, health locus of control, and ease of vulnerability were associated significantly with patients' trust in their physicians. Further research can then be conducted to optimize these factors and ultimately to improve the patient-physician relationship.

Limitations of the Current Study

One limitation of the current study is that online survey was the only method used for data collection. The accuracy and honesty of responses may not be guaranteed. This study relies on the participant's self-perception of emotional intelligence, ease of vulnerability, health locus of control, and religious locus of control. This study design limits our ability to verify the participants' actual characteristics. The social and psychological nature of the topic covering abstract ideas such as trust and emotional intelligence also prohibits a strict quantitative measure as seen in physical sciences.

Another limitation of the current study is the small sample size ($N = 202$) of undergraduates students. As a result, the conclusions from this study cannot be generalized to larger population comprising of broader age groups. Additionally, the sample consisted only of university students mostly of age 18 and 19. Therefore, it may be possible this sample consists of generally healthy young adults. This may imply the sample students do not have several instances where they visit their physician frequently compared to potentially a group of older patients who might have more health issues and complications. The sample of college students also represents a higher education level. Existing research indicates those with a higher education level are more likely to trust their physician (Zhao, Rao, & Zhang, 2016). This study cannot draw

conclusions about young adults that have not attended university or another higher education institution. It is possible that there may be other factors involved in those patients groups when assessing the same variables of emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability.

Future Research

Because our study concluded a significantly positive correlations for trust in physician with the patient's emotional intelligence, health locus of control, and ease of vulnerability among college students, further investigation of this phenomena can be pursued in different populations. Further research can investigate a wider age range among individuals with different levels of education. A study by Klostermann, Slap, Nebrig, Tivorsak, and Britto (2005) explored how adolescents of age 11 to 19 years old with and without chronic illness perceive patient-physician trust. The study concluded that adolescents demonstrate the same aspects of confidentiality, honesty, and competence in patient-physician trust as adults. Unique to the adolescent population of 11 to 19 years old was the importance of the physician reiterating confidentiality. Additionally, the adolescent population showed higher levels of trust when the parent or guardian was involved in the care process. This is one example of an aspect of physician trust relevant to a unique population of patients. Similarly, other aspects of patient trust could be investigated to see if they are more relevant for example in aging populations. Future research may investigate the adolescent population's emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability. This can be compared to the current study's college student population results to identify similarities and differences. Another potential study could combine characteristics of Klostermann's study and the current study to investigate if trends differ with college students with chronic illnesses.

Clinical Implications

The clinical implications of this study regard improving patient-physician relationship in health settings. The current study draws conclusions about the patient population of college students. The results can inform college administrators to develop and implement plans to enhance the quality of care that physicians provide for college students. For example, the study showed as the patient's emotional intelligence increases, the likelihood of trusting their physician also increases. College administrators and healthcare administrators can acknowledge the patient characteristics when approaching their care.

Additionally, the current study found a statistically significant correlation between health locus of control and trust in physician. Based on this finding, college administrators and health administrators can assume that students who tend to have an internal locus of control over their health are more likely to trust their physician. Higher trust in physician tends to lead to better satisfaction with care. Health programs may be initiated to promote college students having internal control over their health. An internal control over health may not be as common in the college age student population where exploration and riskiness are prevalent in youth (Grace, 1997). A health program initiative could be as small as outreach programs or slogans emphasizing personal control over your health. College age students could be the target population for educating on risks of unhealthy habits and detriments long term on your body. This route may be an effective indirect way to improve patient care outcomes and satisfaction.

Another clinical implication of the present study is that patients with a high ease of vulnerability were shown to have a high trust in physician. Clinical psychologists can utilize this information to facilitate the relationship between patient and physician in certain patient cases. Patients in at-risk populations are more likely to have low ease of vulnerability when speaking

with their physician. Incarcerated patients, patients who misuse substances, and victims of trauma are likely to be a part of these at-risk populations (Junewicz et al., 2017). Physicians can also be wary that patients in at-risk populations are less likely to trust them. Therefore, physicians can take extra care into developing a safe space for these patients to voice their concerns with confidentiality. Physicians and the healthcare team of professionals can consider and understand the unique circumstances of the patient. Clinical psychologists, psychiatrists, and therapists can also work with the patient to improve their ease of vulnerability. This is crucial because it not only impacts the patient's openness but also impacts their subsequent health care outcomes via trust in physician.

Conclusion

The results of this study indicate that college student patients exhibit higher patient-physician trust in presence of certain predictive variables. Trust in physician was found to significantly correlate positively with emotional intelligence, internal health locus of control, and ease of vulnerability. Religious locus of control seemed to display little to no relationship with trust in physician. One can also note the variables of emotional intelligence, health locus of control, religious locus of control, and ease of vulnerability collectively predicted physician trust from the regression analysis. The current study also concluded health locus of control was the main contributing factor to predicting trust in physician. The current study did not show significant differences in physician trust across gender or ethnicity. Survey and design limitations regarding this college student population were specified. Additionally, real-world implications for these study results being applied to clinical settings were explained. The current study addressed the gap in existing literature regarding characteristics of college patients within the patient-physician relationship. This study encourages further research in the future regarding

an increased understanding of the intricacies of patient-physician relationship to ultimately improve healthcare outcomes and patient satisfaction long-term across even wider demographics of age and health status.

Appendix A: Tables

Appendix A: Tables

Table 1

Descriptive Statistics of all Study Variables

Variable (Measure)	<i>N</i>	Possible Range	Minimum	Maximum	Mean	Std. Deviation
Trust in Physician (TIP)	202	(1-7)	2.55	7.00	5.14	0.89
Emotional Intelligence (WLEI)	202	(1-7)	2.44	7.00	5.72	0.86
Health Locus of Control (HLC)	202	(1-7)	1.50	7.00	4.87	0.76
God Locus of Health Control (GHLC)	202	(1-7)	1.00	7.00	2.99	1.72
Ease of Vulnerability (VASQ)	202	(1-7)	1.58	6.92	4.47	0.97

Table 2Pearson r Correlation Matrix of Study Variables Among All Participants ($N = 202$)

Variable	Trust in Physician	Emotional Intelligence	Health Locus of Control	God Locus of Health Control	Ease of Vulnerability
Trust in Physician	-				
Emotional Intelligence	.335*	-			
Health Locus of Control	.334*	.396*	-		
God Locus of Health Control	-.043	-.034	-.126	-	
Ease of Vulnerability	.239*	.380*	.127	-.064	-

*. Correlation is significant at the 0.01 level (2-tailed.)

Table 3Pearson r Correlation of Study Variables across Age ($N = 202$)

Variable	Age
Trust in Physician	-.097
Emotional Intelligence	.062
Health Locus of Control	.096
God Locus of Health Control	-.116
Ease of Vulnerability	.029

Table 4t-test values of Study Variables across Gender: Male ($N = 72$) and Female ($N = 126$)

Variable		Mean	Std. Deviation	<i>F</i>	Sig.	<i>t</i>	df
Trust in Physician	Male	5.07	.913	.002	.963	-.639	195
	Female	5.16	.887				
Emotional Intelligence	Male	5.63	.881	.043	.836	-1.200	195
	Female	5.79	.842				
Health Locus of Control	Male	4.88	.751	.016	.900	.136	195
	Female	4.85	.784				
God Locus of Health Control	Male	3.02	1.73	.002	.960	.039	195
	Female	3.01	1.73				
Ease of Vulnerability	Male	4.50	.931	1.038	.310	.334	195
	Female	4.44	1.00				

Table 5Study Variables across Ethnicity among all Study Participants ($N = 202$)

Variable	Ethnicity	<i>N</i>	Mean Score	Std. Deviation
Trust in Physician	Caucasian	104	5.025	.907
	African American	18	5.464	.737
	Latinx or Hispanic	49	5.278	.758
	Asian	19	5.215	1.056
	Native Hawaiian or Pacific Islander	0	–	–
	Mixed Ethnicity or Other	12	4.931	1.090
	Emotional Intelligence	Caucasian	104	5.695
African American		18	6.003	.839
Latinx or Hispanic		49	5.779	.827
Asian		19	5.539	1.083
Native Hawaiian or Pacific Islander		0	–	–
Mixed Ethnicity or Other		12	5.609	1.060
Health Locus of Control		Caucasian	104	4.843
	African American	18	5.250	.743
	Latinx or Hispanic	49	4.884	.698
	Asian	19	4.864	.637
	Native Hawaiian or Pacific Islander	0	–	–
	Mixed Ethnicity or Other	12	4.500	.898
	God Locus of Control	Caucasian	104	2.744
African American		18	3.361	1.865
Latinx or Hispanic		49	3.271	1.548
Asian		19	3.403	1.975
Native Hawaiian or Pacific Islander		0	–	–
Mixed Ethnicity or Other		12	3.069	2.161
Ease of Vulnerability		Caucasian	104	4.379
	African American	18	4.375	.905
	Latinx or Hispanic	49	4.774	1.047
	Asian	19	4.219	1.089
	Native Hawaiian or Pacific Islander	0	–	–
	Mixed Ethnicity or Other	12	4.507	.632

Table 6

One Way ANOVA of Study Variables across Ethnicity between groups

Variable	<i>F</i>	Sig.
Trust in Physician	1.528	.195
Emotional Intelligence	.831	.507
Health Locus of Control	1.879	.116
Religious Locus of Control	1.219	.304
Ease of Vulnerability	1.827	.125

Table 7

Hierarchical Multiple Regression Analysis Predicting Patient-Physician Trust

Variable	<i>R</i>	<i>R</i> ²	ΔR^2	<i>B</i>	<i>SE B</i>	β	<i>t</i>
Step 1	.11	.01	.01				
Gender				.10	.12	.06	.82
Age				-.03	.02	-.10	-1.37
Step 2	.45	.20	.18				
Emotional Intelligence				.20	.08	.19	2.50
Health Locus of Control				.30	.08	.25	3.60*
Religious Locus of Control				-.01	.03	-.01	-.14
Ease of Vulnerability				.13	.06	.14	2.00

*. Significant at the $p < .001$ level (2-tailed)

Table 8

One Way ANOVA of Study Variables across Last Physician Encounter between groups

Variable	<i>F</i>	Sig.
Trust in Physician	1.170	.325
Emotional Intelligence	1.163	.329
Health Locus of Control	1.053	.388
Religious Locus of Control	2.234	.052
Ease of Vulnerability	0.668	.648

Appendix B: IRB Exemption Determination

Appendix B: IRB Exemption Determination



UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board

FWA00000351
IRB00001138, IRB00012110
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

March 3, 2022

Dear Shahram Ghiasinejad:

On 3/3/2022, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Exempt 2(i)
Title:	Examination of patient-physician relationship among college students
Investigator:	Shahram Ghiasinejad
IRB ID:	STUDY00003915
Funding:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• 3915 (Archi) IRB Ghiasinejad HRP 255 Form Final.docx, Category: IRB Protocol;• STUDY 3915 Archi) IRB Ghiasinejad HRP-254-FORM Explanation of Research Final.pdf, Category: Consent Form;• Study announcement in Canvas.docx, Category: Recruitment Materials;• v1 - Patient-Physician_Trust.docx, Category: Survey / Questionnaire;

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

A handwritten signature in cursive script that reads "Renea Carver". The signature is written in a dark ink on a light gray rectangular background.

Renea Carver
UCF IRB

Appendix C: Explanation of Research

Appendix C: Explanation of Research



EXPLANATION OF RESEARCH

Title of Project: Examination of patient-physician relationship among college students

Principal Investigator: Dr. Shahram Ghiasinejad

Other Investigators: Archi Patel

Faculty Supervisor: Dr. Shahram Ghiasinejad

You are being invited to take part in a research study. Whether you take part is up to you.

The purpose of this research is to examine patient-physician relationship by identifying factors that impact one's willingness to trust their physician among students attending the University of Central Florida.

As a participant, you will be required to complete each question carefully and truthfully. To complete the survey and receive full credit for your response, an answer to each question is required. You can complete the online survey from any location with internet access. No identifiable private information will be collected in this questionnaire.

The expected duration of this survey is 30 minutes.

There is no direct compensation for taking part in this study. It is possible, however, that extra/research credit may be offered for your participation, but this benefit is at the discretion of your instructor. Upon completion, you will be awarded SONA credits which may be used as extra/research credit in previously approved psychology courses. If you choose not to participate, you may notify your instructor and ask for an alternative assignment of equal effort for equal credit. There will be no penalty.

Your participation in this study is voluntary. You are free to withdraw your consent and | discontinue participation in this study at any time without prejudice or penalty. Your decision to participate or not participate in this study will in no way affect your relationship with UCF, including continued enrollment, grades, employment or your relationship with the individuals who may have an interest in this study.

You must be 18 years of age or older, speak the English language, and reside in the United States of America to take part in this research study.

If you have questions, concerns, or complaints please contact Archi Patel, Undergraduate Student, Biomedical Sciences Major by email at archipatel@knights.ucf.edu or Dr. Shahram Ghiasinejad, Faculty Supervisor, Department of Psychology at shahram.ghiasinejad@ucf.edu.

IRB contact about your rights in this study or to report a complaint: If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901, or email irb@ucf.edu.

Appendix D: Survey Items

Appendix D: Survey Items

Demographic Questionnaire

1. What is your age?
 - A. _____
2. What gender do you identify as?
 - A. Male
 - B. Female
 - C. Nonbinary
 - D. Transgender male
 - E. Transgender female
3. What is your ethnicity?
 - A. Caucasian
 - B. African American
 - C. Latinx or Hispanic
 - D. Asian
 - E. Native Hawaiian or Pacific Islander
 - F. Mixed ethnicity or Other (specify): _____
4. Do you have a professional relationship with a physician who you have seen more than once?
 - A. Yes
 - B. No
5. When was your last encounter with a physician or medical professional?

- A. Within the past one month
- B. Within the past three months
- C. Within the past six months
- D. Within the past one year
- E. Within the past five years
- F. More than five years
- E. Never

Trust in Physician Scale

Think of one physician who you have a relationship with. Indicate whether you 1 (strongly disagree) to 7 (strongly agree) with the following statements.

1. I doubt that my doctor really cares about me as a person
2. My doctor is usually considerate of my needs and puts them first
3. I trust my doctor so much I always try to follow his/her advice
4. If my doctor tells me something is so, then it must be true
5. I sometimes distrust my doctor's opinion and would like a second one
6. I trust my doctor's judgements about my medical care
7. I feel my doctor does not do everything he/she should for my medical care
8. I trust my doctor to put my medical needs above all other considerations when treating my medical problems
9. My doctor is a real expert in taking care of medical problems like mine
10. I trust my doctor to tell me if a mistake was made about my treatment
11. I sometimes worry that my doctor may not keep the information we discuss totally private

Wong & Law Scale of Emotional Intelligence Scale

Think of your emotional control. Indicate whether you 1 (strongly disagree) to 7 (strongly agree) with the following statements.

1. I have a good sense of why I feel certain feelings most of the time.
2. I have a good understanding of my own emotions.
3. I really understand what I feel.
4. I always know whether I am happy or not.
5. I always know my friends' emotions from their behaviour.
6. I am a good observer of others' emotions.
7. I am sensitive to the feelings and emotions of others.
8. I have a good understanding of the emotions of people around me.
9. I always set goals for myself and then try my best to achieve them.
10. I always tell myself I am a competent person.
11. I am a self-motivating person.
12. I would always encourage myself to try my best.
13. I am able to control my temper so that I can handle difficulties rationally.
14. I am quite capable of controlling my own emotions.
15. I can always calm down quickly when I am very angry.
16. I have good control of my emotions.

Health Locus of Control Scale

Think of one physician who you have a relationship with. Indicate whether you 1 (strongly disagree) to 7 (strongly agree) with the following statements.

1. If I get sick, it is my own behavior which determines how soon I get well again.
2. No matter what I do, if I am going to get sick, I will get sick.
3. Having regular contact with my physician is the best way for me to avoid illness
4. Most things that affect my health happen to me by accident.
5. Whenever I don't feel well, I should consult a medically trained professional.
6. I am in control of my health.
7. My family has a lot to do with my becoming sick or staying healthy.
8. When I get sick, I am to blame.
9. Luck plays a big part in determining how soon I will recover from an illness.
10. Health professionals control my health.
11. My good health is largely a matter of good fortune.
12. The main thing which affects my health is what I myself do.
13. If I take care of myself, I can avoid illness.
14. Whenever I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
15. No matter what I do, I'm likely to get sick.
16. If it's meant to be, I will stay healthy.
17. If I take the right actions, I can stay healthy.
18. Regarding my health, I can only do what my doctor tells me to do.

God Health Locus of Control Scale

Think of one physician who you have a relationship with. Indicate whether you 1 (strongly disagree) to 7 (strongly agree) with the following statements.

1. If my health worsens, it is up to God to determine whether I will feel better again.
2. Most things that affect my health happen because of God.
3. God is directly responsible for my health getting better or worse.
4. Whatever happens to my health is God's will.
5. Whether or not my health improves is up to God.
6. God is in control of my health.

Vulnerable Attachment Style Scale

Think of your interpersonal relationships. Indicate whether you 1 (strongly disagree) to 7 (strongly agree) with the following statements.

1. I take my time getting to know people.
2. I rely on others to help me make decisions in life
3. People let me down a lot
4. I miss the company of others when I'm alone
5. It's best not to get too emotionally close to other people
6. I worry a lot if people I live with arrive back later than expected
7. I usually rely on advice from others when I've got a problem
8. I feel uncomfortable when people get too close to me
9. People close to me often get on my nerves
10. I feel people are against me
11. I worry about things happening to close family and friends
12. I often get into arguments
13. I'm clingy with others
14. I look forward to spending time on my own
15. I like making decisions on my own
16. I get anxious when people close to me are away
17. I feel uneasy when others confide in me
18. I find it hard to trust others
19. Having people around me can be a nuisance
20. I feel people haven't done enough for me

21. It's important to have people around me a lot of the time

22. I find it difficult to confide in people

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