

The mediating role of physician trust in the relationship between medical mistrust and health-care system distrust

El papel mediador de la confianza del médico en la relación entre la desconfianza médica y la desconfianza en el sistema de salud

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Abstract

Objective: This study was carried out to determine the mediating role of physician trust in the relationship between medical mistrust and health-care system distrust. **Materials and methods:** The “Health Care Systems Distrust Scale”, which consists of 10 questions, the “Medical Mistrust Scale”, which consists of 17 questions, the “Physician Trust Scale”, which consists of 11 questions. The statistical analysis was performed using the SPSS 26.0 program. **Results:** Health-care system distrust was positively correlated with medical mistrust and negatively correlated with physician trust. There was a negative relationship between medical mistrust and physician trust. Physician trust mediates the effect of medical mistrust on health-care system distrust. In other words, it was determined that the mediating effect of physician trust was significant. **Conclusion:** Addition of physician trust to medical mistrust decreases the negative effects of health-care system distrust. Medical mistrust must be addressed at multiple levels of society, including government, policy, and health-care systems.

Keywords: Trust. Mistrust. Distrust. Physician. Health-care system.

Resumen

Objetivo: Este estudio se llevó a cabo para determinar el papel mediador de la confianza del médico en la relación entre la desconfianza médica y la desconfianza en el sistema de salud. **Materiales y Métodos:** La “Escala de desconfianza en los sistemas de atención médica”, que consta de 10 preguntas, la “Escala de desconfianza médica”, que consta de 17 preguntas, la “Escala de confianza del médico”, que consta de 11 preguntas. El análisis estadístico se realizó mediante el programa SPSS 26.0. **Resultados:** La desconfianza en el sistema de salud se correlacionó positivamente con la desconfianza médica y negativamente con la confianza en los médicos. Hubo una relación negativa entre la desconfianza médica y la confianza en el médico. La confianza del médico media el efecto de la desconfianza médica en la desconfianza de los sistemas de atención médica. En otras palabras, se determinó que el efecto mediador de la confianza en el médico fue significativo. **Conclusión:** La adición de la confianza del médico a la desconfianza médica disminuye los efectos negativos de la desconfianza en el sistema de atención médica. La desconfianza médica debe abordarse en múltiples niveles de la sociedad, incluido el gobierno, las políticas y los sistemas de atención médica.

Palabras clave: Confianza. Desconfianza. Médico. Sistema de salud.

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Date of reception: 25-02-2023

Date of acceptance: 24-05-2023

DOI: 10.24875/CIRU.23000102

Cir Cir. 2024;92(1):46-51

Contents available at PubMed

www.cirugiyacirujanos.com

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Introduction

Trust, mistrust, and distrust reflect people's ability to utilize resources and make the best decisions for their health care and well-being¹. Trust is a defining concept in any relationship but is especially central to the patient–physician relationship. The crucial role of trust in medical relationships has long been adopted^{2,3}. However, medical trust has not been systematically measured and analyzed until recently. Trust has been shown to influence a variety of attitudes and behaviors including patient's willingness to seek care, adhere to treatment, remain with a physician, and recommend physicians to others⁴. Trust plays a critical role in the health-care system where entire arrangements are largely relational⁵. Physician trust is shaped by various factors including the professional caring relationship. Physician trust depends on professional experience, professionalism, competence, availability, and credibility⁶.

In recent years, there has been an increased awareness of mistrust that people exhibit toward medical advances, medical professions, and medical approaches⁷. Medical mistrust is an important barrier to a strong patient–physician relationship. Patient mistrust in health-care clinicians and health-care system distrust influence patient behaviors and health outcomes^{8,9}. Negative health consequences of medical mistrust include lower utilization of health-care systems and poorer management of health conditions such as diabetes mellitus, cancers, and HIV¹⁰⁻¹³. Medical mistrust is consequently the tendency to distrust medical institutions, including medical personnel and clinicians.

Recently, a growing body of evidence suggests that health-care-related distrust may avoid patients from seeking appropriate medical care, adherence to medical recommendations, and maintaining continuity of care¹⁴. Patients with high levels of health-care system distrust are more likely to avoid health care, less likely to maintain continuity of care, and more likely to need monitoring and verifying their health-care decisions¹⁵.

Physician trust is central to medical mistrust and health-care system distrust. The best example of physicians' mediating role has been seen during the last outbreak. Physician trust has played a major mediating role during COVID-19 pandemic by promoting people to get vaccinated, reducing medical mistrust, and health-care system distrust. There is no study in the

literature investigating the mediating role of physician trust in the context of medical mistrust and health-care system distrust. Therefore, the objective of this study was to investigate the mediating role of physician trust in the relationship between medical mistrust and health-care system distrust.

Materials and methods

The survey method was preferred in this study. “Demographic Characteristics”, “Health Care Systems Distrust Scale”, “Medical Mistrust Scale”, and “Physician Trust Scale” were applied face to face to the individuals over the age of 18 who received health services from any health institution in 2022 in Turkey and accepted to participate in our study. The study protocol was approved by the Dicle University Social and Human Sciences Ethics Committee with the 29/08/2022 dated and 343937 numbered decision.

The “Health Care Systems Distrust Scale” was developed by Rose et al. in 2004, and the scale was adapted into Turkish by Yeşildal et al.^{16,17}. The scale consists of 10 statements. The statements in the scale were structured as a 5-point Likert scale, ranging from “1: strongly disagree to 5: strongly agree”. As the scores obtained from the scale approach 5, it shows that health systems distrust increases and distrust decreases as it decreases toward 1. As a result of the reliability analysis of the scale, Cronbach's alpha coefficient was determined as 0.79¹⁷. In our study, Cronbach's alpha coefficient was determined as 0.82.

There are a total of 17 statements in the “Medical Mistrust Scale” adapted into Turkish by Şengül and Bulut¹⁸. For these statements, the participants were allowed to answer between “Strongly Disagree (1), Disagree (2), Agree (3), and Strongly Agree (4)”. As a result of the reliability analysis of the scale, Cronbach's alpha coefficient was determined as 0.67¹⁸. In our study, Cronbach's alpha coefficient was determined as 0.87.

There are a total of 11 statements in the “Physician Trust Scale” developed by Şengül and Bulut¹⁸. For these statements, the participants were allowed to answer between Strongly Disagree (1), Disagree (2), Undecided (3), Agree (4), and Strongly Agree (5). 1st and 5th statements in the scale are coded in reverse. As a result of the reliability analysis of the scale, Cronbach's alpha coefficient was determined as 0.87¹⁸. In our study, Cronbach's alpha coefficient was determined as 0.86.

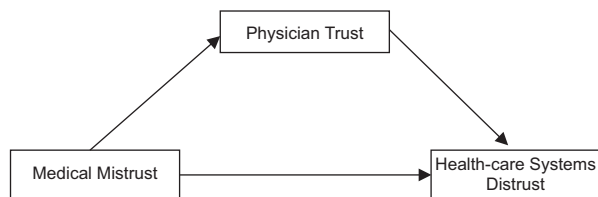


Figure 1. Research model.

Exploratory factor analysis was first applied for scale construct validity. The relationship between the variables (medical mistrust, health-care systems distrust, and physician trust) was examined by calculating the correlation coefficient of the Pearson product of moments. The reliability coefficient of the scale was determined by the Cronbach’s alpha value. The normality distribution was examined by calculating the coefficient of the skewness and kurtosis values. Finally, the mediation test was applied with SPSS Process Macro.

In this study, the medical mistrust was considered as independent variable, the health-care systems distrust as dependent variable, and the physician trust as mediating variable. The model created in this context is presented in figure 1.

Hypotheses of the study:

- H1: Medical mistrust positively affects health-care systems distrust
- H2: Medical mistrust negatively affects physician trust
- H3: Health-care systems distrust negatively affects physician trust
- H4: There is a significant relationship between medical mistrust and health-care system distrust
- H5: Physician trust has a mediating role in the relationship between medical mistrust and health-care system distrust

Results

In this study, which included 808 participants, the mean age was 34.96 years (standard deviation was 10,36). It is seen that 62.4% of the participants are male and 37.6% are female. 63.1% of them are married and 36.9% are single. 83.9% of them had no chronic disease, and 51.2% had no family member with chronic disease. Finally, 79.7% of them were not using a drug regularly (Table 1).

In the study, the kurtosis and skewness coefficients were examined to determine the conformity of the

Table 1. Demographic data

Variables	Mean	SD
Age	34,96	10,36
	n	%
Gender		
Male	504	62.4
Female	304	37.6
Marital status		
Single	298	36.9
Married	510	63.1
Chronic disease		
Yes	130	16.1
No	678	83.9
Chronic disease in the family		
Yes	394	48.8
No	414	51.2
Regular drug usage		
Yes	164	20.3
No	644	79.7

Table 2. Kurtosis and skewness values

Variables	Skewness	Kurtosis
Health-care system distrust	-0.057	-0.008
Physician trust	-0.494	0.154
Medical mistrust	0.099	0.167

scale scores to the normal distribution. It is considered sufficient for normal distribution that the kurtosis and skewness values obtained from the scales are between +3 and -3¹⁹⁻²². It is seen that the kurtosis and skewness coefficients of each score are between -3 and +3 (Table 2). According to this result, it was concluded that the scores showed a normal distribution. Parametric test techniques were used in the study due to the normal distribution of scores.

Correlation analysis was applied to determine the relationship between medical mistrust, health-care system distrust, and physician trust. The health-care system distrust and the medical mistrust were found to be positively correlated ($r = 0.761, p < 0.01$). The health-care system distrust and physician trust were found to be negatively correlated ($r = -0.637, p < 0.01$). The medical mistrust and the physician trust were found to be negatively correlated ($r = -0.738, p < 0.01$) (Table 3).

Table 3. Relationships between variables included in the study

	Mean	SD	Health-care system distrust	Physician trust	Medical mistrust
Health-care system distrust	3.04	0.66	-		
Physician trust	3.05	0.50	0.761*	-	
Medical mistrust	3.16	0.63	-0.637*	-0.738*	-

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

Table 4. The mediating role of physician trust in the relationship between medical mistrust and health-care system distrust

Variables	Bootstrap estimations		95% confidence interval		r ²	F
	B	SE	LLCI	ULCI		
MM > HCSD	1.007	0.030	0.948	1.067	0.578	1105.6294*
MM > PT	-0.935	0.030	-0.994	-0.876	0.544	962.2654*
MM > HCSD	0.845	0.044	0.759	0.932	0.591	581.3487*
PT > HCSD	-0.173	0.035	0.242	-0.105		
Indirect effect PT	0.162	0.038	0.089	0.236		
Completely standardized effect PT	1.007	0.030	0.948	1.067		

*p < 0.05.

MM: medical mistrust; HCSD: health-care system distrust; PT: physician trust.

Process analysis was applied to determine the mediating role of physician trust in the relationship between medical mistrust and health-care system distrust. Indirect effects were examined in the process analysis conducted to determine the mediating role of the physician trust in the relationship between the medical mistrust and the health-care system distrust. It is seen that medical mistrust has a statistically significant effect on health-care system distrust ($\beta = 1.007$, $p < 0.05$) (Table 4).

Medical mistrust has a statistically significant effect on physician trust ($\beta = -0.935$, $p < 0.05$). According to the model in which the independent, dependent, and mediation variables are together, the coefficient of medical mistrust decreased from 1.007 to 0.845 when the mediating variable was added to the model. Accordingly, the impact of medical mistrust on health system care distrust decreased (Table 4).

In the modern approach, it is decided whether there is a mediating effect or an indirect effect by looking at the values in the 95% confidence interval obtained as a result of the bootstrap analysis. Accordingly, if the lower and upper confidence interval values corresponding to

the indirect effect value do not include the zero value, the indirect effect is considered significant and it is understood that the mediation effect occurs²³.

According to these results, physician trust mediates the effect of medical mistrust on health-care system distrust. In other words, it was determined that the mediating effect of physician trust was significant.

Discussion

In this study, the health-care system distrust and medical mistrust were found to be positively correlated. The health-care system distrust and the physician trust were found to be negatively correlated. In addition, the medical mistrust and the physician trust were found to be negatively correlated. The increase in medical mistrust decreased physical trust. Physician trust mediates the effect of medical mistrust on health-care system distrust. The mediating effect of physician trust was significant. The addition of physician trust to medical mistrust reduced the effect of health-care system distrust. In a study by Cavellos et al., medical mistrust and perceived discrimination significantly contributed to lower satisfaction with health-care system among young adult Latinos living in a rural region²⁴. Similarly, in our study, health-care distrust increased as medical mistrust increased.

Some researchers demonstrated the beneficial effects of physician trust on specific health behaviors and outcomes. Physician trust increased the probability of patient satisfaction, treatment adherence, and improved health outcomes, while it decreased the likelihood of leaving physician's practice or withdrawing from a health plan, suggesting the positive and mediating effect of physician trust on the health-care system. In our study, adding physician trust on medical mistrust decreased the effect of health-care system distrust.

Health-care system distrust is a form of institutional trust related to the institutions of health-care systems including hospitals, insurers, pharmaceutical companies,

etc. In contrast, physician trust is a form of interpersonal trust specific to a physician²⁵. Rose et al. investigated physician trust and health-care system distrust among patients receiving adjuvant therapy and found significant correlation between health-care system distrust, physician trust, and treatment discordance¹⁶. However, in this study, the relationship between health-care system distrust and treatment discordance was not mediated by physician trust. The authors attributed these findings to the fact that addressing health-care system distrust may be an important and distinct effort from strategies focused on the lack of physician trust. In a study by Sengul et al., medical mistrust decreased as trust in the physician increased as was the case in our study. In the same study, it was found that dissatisfaction with the health service increases medical mistrust, while also reducing trust in the physician¹⁸. Whereas, in our study, trust in the physician decreased both medical mistrust and dissatisfaction with the health service.

In a study by Zhang et al. conducted during COVID-19 period, medical mistrust has played a mediating role in vaccine hesitancy. There was an indirect relationship between mistrust and confidence, complacency, and knowledge of vaccines²⁶. Similarly, in the present study, there was a significant positive correlation between medical mistrust and health-care system distrust.

In a study by Adams et al., it was reported that higher scores on medical mistrust scale were associated with lower incidence of colorectal cancer screening²⁷. In a study by Griffith et al., it was stated that certain race groups including African American, Latins, and other marginalized groups as well as members of lesbian, gay, bisexual, transgender, and queer community have a long history of receiving inferior quality of care even when they have a comparable level and type of insurance and access to care with those of more privileged groups, which increased medical mistrust and health-care system distrust¹. In the present study, however, we did not group the participants according to various characteristics.

Conclusions

Medical mistrust is positively correlated with health-care system distrust and negatively correlated with physician trust. Physician trust plays a mediating role in the relationship between medical mistrust and health-care system distrust. The addition of the physician trust on medical mistrust decreases the negative effects of the health-care system distrust. Medical

mistrust must be addressed at multiple levels of society, including government, policy, and health-care systems.

The number of our sample is relatively large and this is the first study in the literature investigating the mediating role of the physician trust in the relationship between the medical distrust and the health-care system distrust using process analysis, as the strengths. Further studies with wider populations are needed to better enlighten the relationship between trust, mistrust, and distrust in the field of medicine. Additional questions such as COVID-19 and HIV could be included.

Funding

The authors declare that they have not received funding.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained approval from the Ethics Committee for analysis and publication of routinely acquired clinical data and informed consent was not required for this retrospective observational study.

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