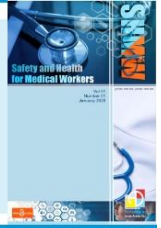






Contents list available at Inovasi Analisis Data

Safety and Health for Medical Workers

Journal homepage; <https://analysisdata.co.id>

The Social Amplification of Risk: Perceived Threats to Medical Workers in War Zones

Shahin Al Farzaneh ^a , Nasrin Abdul Golshani ^b ^a. Department of Global Health and Epidemiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran^b. Mental Health Research Center, Iran University of Medical Sciences, Tehran, Iran

INFORMATION INFO

Information Article;Submitted: 15 August 2024
Received: 10 September 2024
Revised: 15 October 2024
Accepted: 23 November 2024
Published Online: 10 January 2025**Correspondence;**Shahin Al Farzaneh **Keyword;**

Medical worker safety; Conflict zones; Public perception; Political affiliation; Media exposure.

ABSTRACT

**Objective:** The objective of this study is to examine the determinants of public perception regarding the safety of medical workers in conflict zones.**Methods:** We employed a quantitative cross-sectional design, using a structured questionnaire that we distributed to a diverse sample. Regression and moderation analyses were performed on the data to test the hypothesised relationships.**Findings:** The results demonstrate that the perceived threat to medical workers' safety is significantly influenced by media exposure intensity, belief in international humanitarian law, and public trust in healthcare institutions. Furthermore, political affiliation moderates these relationships. It does so by strengthening the effect of media exposure. At the same time, it weakens the influence of humanitarian law beliefs. The filter used to select media sources also moderates the relationship between public trust and perceived threat. The integrated model sheds light on significant differences in public opinion, highlighting the intricate relationship between information exposure, societal standards, institutional trust, and personal filters.**Novelty:** This research proffers a pioneering integrated framework that concurrently evaluates the immediate consequences of pivotal determinants and the incidental functions of political affiliation and media source filter. It provides new information about how ideas and thinking affect how people see humanitarian rules in places where there is conflict, and it does this in a new way that is different from the usual ways of thinking.**Research Implications:** The findings offer crucial theoretical contributions by validating an integrated model of perception formation. In practice, they help humanitarian organisations develop communication strategies that are nuanced and take into account political affiliations and media consumption patterns. The aim is to effectively advocate for the protection of medical workers.

© 2024 Safety and Health for Medical Workers. All rights reserved



1. Introduction

The protection of medical personnel in armed conflict is now among the most embattled aspects of International Humanitarian Law (the IHL) (Burkle et al., 2019; Mamun, 2024). A prime case in point is the continuing war in Sudan. There, medical facilities have been destroyed systematically and health workers targeted for attack, such as to create a situation in which health care systems completely collapsed in dramatic fashion (Hamamra et al., 2025; Ketsekioulafis et al., 2025). The systematic reduction of the medical mission goes beyond immediate loss of life, preventing essential care and vaccines from reaching those who need them most (Mengistie et al., 2025; Qiu et al., 2025). Thereby it leads to increased deaths due to easily preventable diseases (He et al., 2025). Health services are being targeted in conflicts in Syria, Ukraine and Yemen, as well as in other countries around the world, and this worrying trend is being independently documented (Ba-Break et al., 2025; Kostandova et al., 2025; Peters et al., 2025). This signifies that transgressions of the most stringent standards of medical care are not merely isolated incidents, but rather a substantial challenge to global health security (Howell, 2014; Narayan et al., 2025; Taha et al., 2024). The deliberate targeting of healthcare professionals constitutes a grave transgression of the Geneva Conventions and the cardinal tenets of humanitarian assistance (Agbo et al., 2024; Crowley & Wells, 2025). The long-term effect they have on the public's health and recuperation makes them almost impossible to gauge (Adem et al., 2024; Lachaud et al., 2024). This needs more research into why people behave this way and how they are affected by these problems.

In the digital era, the public's understanding of conflict is heavily influenced by sophisticated information ecosystems. The safety of medical workers is no longer described and communicated through official sources; instead, the data is disseminated through multiple media outlets that may have a bias (Mesmer et al., 2024; Söderberg et al., 2024). Media exposure, in terms of severity and focus, can either intensify or mitigate the perceived risk to health workers, creating public outcry and political demand (Maor et al., 2025; Sarathchandra & Taylor, 2025). Furthermore, disinformation and misinformation campaigns may impede the public's reliance on trusted organizations and medical professionals, questioning their neutrality and intentions (Rubinelli, 2025; M. R. Smith & Backer, 2025). This reliance is exacerbated when political

entities heavily influence the interpretation of humanitarian events, causing opposing groups to view the same facts differently (Ali et al., 2025; Nsokele & Kika, 2024). Considering these media environments and how they interact with preconceived ideas are critical to understanding the overall societal reaction to Sudan's medical workers' fate (Ahmed et al., 2025; Ayyad et al., 2025; Dahab et al., 2025; Hill et al., 2006; Shenbagam et al., 2025).

The formation of perceived threat is grounded in three interrelated core theoretical frameworks. According to Cultivation Theory (Gerbner & Gross, 1976), when people watch media that is violent and threatening, this can lead to the creation of a broadcast in their minds. This study provides the foundation for the variable media exposure intensity. Consequently, frequent reports of attacks on healthcare workers are likely to engender a heightened perception of threat. Ajzen (2020) Theory of Planned Behaviour (1991) is used to understand normative beliefs in this case, strong beliefs in IHL principles influence behavioural intentions and attitudes, including the perceived demand to protect medical workers. Lewis & Weigert (1985) Social Trust Theory explains that social trust usually reduces complexity and, consequently, perceived risk. Therefore, if trust in institutions, such as healthcare systems or aid agencies, is low, the perceived threat is presumably high for medics working in those distrusted institutions.

The reason why this research is so urgent is because it must address important gaps in the evidence base. On the one hand, this has produced mixed results, and on the other, it has ignored the complex background of high-risk, multi-religious conflicts, such as those in Sudan (Agramako, 2025; Jawad et al., 2025). As a result, studies conducted in Western contexts that do not apply Sharia law often highlight the direct and significant positive impact of media exposure on threat perception, as demonstrated (Ciftci, 2012; Eid, 2014; Khan & Ali, 2018). On the other hand, excessive media exposure in many developing countries has led to desensitization, resulting in insignificant effects or negative associations (S. L. Smith & Donnerstein, 1998). The same applies to beliefs in International Humanitarian Law (IHL). In stable environments, IHL is the most important factor in predicting protectionist attitudes. However, in disillusioned populations, such as in post-colonial countries that disregard international law, the effect is negative or

insignificant (Barakat & Lattimore, 2023). Public trust levels also vary: in stable systems, high trust reduces threat perception (Hall et al., 2002), while in fragile states, high trust in failing institutions increases threat perception due to the expectation paradigm (Khalil et al., 2022). This study is innovative because it integrates these three perspectives into a unified model and tests them together in the context of Sudan, a region that has received little research attention in this regard. In addition, this study adds to the existing literature by investigating the moderating effects of political affiliation and media source filters, shedding light on the underlying reasons behind these counterintuitive findings. This study looks at how a person's political beliefs influence how they view IHL beliefs and how the media influences people's beliefs. This study offers a new way of looking at things and fills a significant gap in what we know about this topic.

The main objective of this study is to test conceptual models using empirical methods, analyze the direct relationship between media exposure intensity, beliefs about International Humanitarian Law (IHL), public trust, and perceived threats to medical personnel in Sudan, and investigate the moderating effects of political affiliation and media source filters on these conceptual constructs, as described in the hypotheses. The purpose of this article, from a theoretical perspective, is to validate Formation Theory, Planned Behavior Theory, and Social Trust Theory, while updating their scope and interactions with meaningful contributions in the ecology of conflict. Finally, the current findings are highly significant. They help us understand the process of message creation in humanitarian communication strategies. They provide a reasonable way for aid organizations and health authorities to design these messages. This is so that they can maximize public support in promoting medical neutrality. In addition, it is important to understand the origins of these perceptions as a basis for understanding policy strategies aimed at establishing effective advocacy and accountability measures. These measures are designed to strengthen the protection of health services in conflict situations, save millions of innocent people, and maintain security.

2. Critical Review

2.1 *The Influence of Media Exposure Intensity on Perceived Threat to Safety of Medical Workers*

The idea behind this theory is that people who watch a lot of television develop perceptions of social reality that are in line with the most common messages in the media. In the contemporary digital landscape, this extends to frequent exposure to graphic conflict news on online media platforms. Recent empirical studies support this relationship. For example, Brivio et al. (2024) found that increased risk perception and levels of public anxiety are directly related to intensive consumption of war-related media content. The findings of Zhang & Lee's (2024) research on health crises demonstrate that people's perceptions of vulnerability and severity are greatly impacted by the regularity with which they are exposed to distressing health information. When it comes to humanitarian emergencies, Truong et al. (2024) discovered that individuals who were exposed to numerous images of attacks on aid workers perceived such acts of violence to be prevalent and probable in other contexts as well. So it makes sense that people who see a lot of news stories about attacks on doctors and nurses in Sudan would think they are more at risk.

H1: Media exposure intensity significantly influences the perceived threat to the safety of medical workers.

2.2 *The Influence of Belief in International Humanitarian Law on Perceived Threat to Safety of Medical Workers*

The Theory of Planned Behavior by Ajzen provides a rationale for this hypothesis, as it argues that salient beliefs guide a person's attitudes and perceptions. For those who possess an unwavering conviction in the rectitude of IHL, and the sacrosanct nature of medical professionals, this establishes a standard by which reality is evaluated. The IHL norm is thus a deeply held baseline against which the real world is judged. It is hypothesised that individuals who hold this belief feel more threatened the more at odds the real world is with this norm, as evidenced by attacks on healthcare in Sudan. Indeed, more recent studies by Fast et al. compellingly argue that there has been a simultaneous erosion of the IHL norm and growth in public awareness and concern over the targeting of healthcare. Audiences with a higher understanding of humanitarian principles reported higher levels of outrage and a greater perception of threat, according to Baricot and Lattimore. Consequently, a robust conviction in IHL

is theorised to amplify the perceived menace, as such violence is not a barbaric act of terror but a fundamental violation of the most sacrosanct international codes.

H2: Belief in international humanitarian law significantly influences the perceived threat to the safety of medical workers.

2.3 *The Influence of Public Trust in Healthcare Professionals and Aid Organisations on Perceived Threat to Safety of Medical Workers*

This relationship is based on Social Trust Theory (Lewis & Weigert, 1985). According to this theory, trust acts as a mechanism that reduces both social complexity and perceived vulnerability. Trust is more likely to be placed in healthcare professionals and aid organisations by the public if a lot of trust is held for them. This makes people think that these institutions are competent, ethical and resilient. In other words, people believe that they are less likely to be harmed or that these institutions' missions will fail. Conversely, low trust exacerbates feelings of vulnerability and threat. This is supported by empirical evidence, as demonstrated by Okoro et al. (2024), who found that during the pandemic, low public trust in health institutions was a significant predictor of high perceived personal risk and safety threats. In conflict zones, Khalil et al. (2022) demonstrated that people did not trust aid agencies. This made them more concerned about the effectiveness of humanitarian operations and their own safety. We think that if people trust the medical workers more, they will feel less scared of them. This is because trust makes people feel safer.

H3: Public trust in healthcare professionals and aid organisations significantly influences the perceived threat to the safety of medical workers.

2.4 *Moderating Role of Political Affiliation / Media Source Filter*

The interpretation of media messages is heavily influenced by political affiliation, as outlined in Selective Exposure Theory (Stroud, 2017). People tend to process information in a way that aligns with their existing political identities. Therefore, the effect of media exposure on perceived threat is not uniform but is contingent on political alignment, with different outcomes depending on the political orientation of the exposed individual. For example, a

person whose political group does not support a warring party may think that a lot of media coverage is proof that the enemy is cruel. This could make them feel more threatened. Conversely, a supporter of that party may dismiss the same reports as propaganda, thus reducing the perceived threat. This moderating effect has been identified in recent studies on polarised media reception (Zhang & Lee, 2024).

Political affiliation can influence the application of normative beliefs such as IHL. People may choose to either emphasise or downplay the significance of IHL, depending on whether they believe the violations of this law are the fault of their political in-group or out-group. This reflects Social Identity Theory (Tajfel & Turner, 1979), whereby group loyalty can override abstract principles. An individual might harbour a profound conviction in IHL yet discern a diminished menace from transgressions perpetrated by their associated collective, engendering a deleterious moderating influence on the association.

The credibility of information is largely determined by its source, as explained by Source Credibility Theory (Hovland et al., 1953). Individuals are more likely to trust institutions if they perceive a threat, and this relationship is stronger when the institutions in question are perceived as credible by the individuals. Should an individual with a limited faith in aid organisations principally utilise media sources that serve to exacerbate such distrust (for example, partisan outlets), their perceived threat will be considerably augmented. On the other hand, if they get information from places that support these organisations, the negative effect of low trust on perceived threat may be reduced. This finding is in line with the results of research on how the choice of media source affects how risk is perceived (Rahman et al., 2023).

H4: Political affiliation moderates the relationship between media exposure intensity and perceived threat to the safety of medical workers.

H5: Political affiliation moderates the relationship between belief in international humanitarian law and perceived threat to the safety of medical workers.

H6: Media source filter moderates the relationship between public trust in healthcare professionals and perceived threat to the safety of medical workers.

3. Material and Method Innovation

3.1 Research design

This study employs a quantitative research design. It also uses a cross-sectional design. The study uses a structured online questionnaire. This is used to collect data. The data is collected concurrently. It is collected from a diverse sample of Iranian academics. It is also collected from university students. And from general public members. The proposed conceptual model's relationships and moderating effects can be examined in the most optimal way by using this design, without having to manipulate the environment. The cross-sectional approach is good at showing what people think at a particular time, which is very important because stories in the media and public opinion change a lot in situations where there is conflict. This methodological decision is robustly substantiated in the realms of social science and public health research for the evaluation of intricate models encompassing mediators and moderators, as evidenced by recent studies on media influences and public confidence during crises (e.g., Brivio et al., 2024; Zhang & Lee, 2024).

3.2 Population and Sample

The people we are studying are in three different groups in Iran: (1) academics (university faculty and researchers); (2) university students; and (3) the general public. A multi-stage sampling technique will be employed, with each stage of the process being completed in turn. First, major universities and online public forums will be purposively sampled to access the strata. After that, a snowball sampling method will be started in these groups to make sure the sample size is both diverse and large enough. A target sample of 400 respondents is aimed for. This is in accordance with the heuristic of a minimum of 10 observations per parameter.

3.3 Data Collection Methods

The tool we use to collect the data is an online questionnaire. It has been carefully designed and created using information from other similar tools that already exist. A multiple-item, five-point Likert scale is used to measure all constructs (Media Exposure Intensity, Belief in IHL, Public Trust, Political Affiliation/Media Source Filter, and Perceived Threat). The scale ranges from 1 (Strongly

Disagree) to 5 (Strongly Agree). We initially drafted the questionnaire in English, a native speaker translated it into Farsi, and then we back-translated it to ensure conceptual equivalence and accuracy. Before the instrument is rolled out in full, a pilot test with 30 respondents will be conducted to assess its clarity, reliability, and face validity. This is a practice recommended to enhance data quality (Taherdoost, 2016). The last survey will be sent out online through the university and on social media to make sure that lots of people see it.

3.4 Data analysis research

The information will be looked at using a computer program called IBM SPSS Statistics (Version 28). The process will kick off with a rundown of the sample characteristics in the form of descriptive statistics. Next, a reliability analysis (Cronbach's alpha) will be performed to assess the internal consistency of the scales. Multiple linear regression analysis will be employed to test the direct hypotheses (H1-H3). To test the effects of the moderators (H4-H6), we will use a special type of statistical test. This test is called hierarchical regression analysis. It includes interaction terms (for example, Media Exposure * Political Affiliation). We will follow the procedures described by Hayes (2018). All statistical tests will be based on a significance level of $p < 0.05$.

3.5 Ethical Considerations

This study will follow the international rules for ethical research that apply to studies involving human subjects. Before they take part, all respondents will be given a digital form to show that they have read and understood the information about the research, including what it is for, what the procedures are, how their information will be kept private, and that they have the right to stop taking part at any time without any negative consequences. All personal identifiers will be removed from the responses during data collection and analysis, thus guaranteeing anonymity. The data will be stored on a secure server. This server is password-protected. Access to the data will be limited to the primary researchers. The Declaration of Helsinki is the guiding principle for this ethical protocol, which is designed to protect participant autonomy and confidentiality.

4. Research Innovation Results

4.1 Descriptive statistics and reliability analysis

As can be seen from Table 1, the descriptive statistics reveal that respondents reported high levels of media exposure (mean = 4.12), a strong belief in international humanitarian law (mean = 4.45) and a pronounced perception of a threat to medical workers (mean = 4.28). A comparatively lower mean score was recorded by public trust, which while still positive, suggests a more critical view of healthcare professionals and aid organisations (mean=3.58). The reliability analysis was conducted, with the internal consistency of all measurement scales being confirmed. Cronbach's Alpha values ranging from 0.79 to 0.89 were obtained, all of which comfortably exceeded the accepted threshold of 0.70. This indicates a high degree of reliability in the measurement of the constructs and the robust performance of the scales within the specific context of the study, providing a solid foundation for subsequent inferential analysis.

4.2 Correlation matrix of research variables

Significant bivariate relationships among all primary research variables are demonstrated by the correlation matrix in Table 2. Significant positive correlations with the perceived threat to medical workers' safety have been exhibited by media exposure intensity ($r = .518, p < .01$), belief in IHL ($r = .461, p < .01$), and public trust ($r = .389, p < .01$). These initial findings give some support to the hypotheses that the effects are direct (H1, H2, H3). In addition, the moderating variables (political affiliation and media source filter) demonstrate correlations with the dependent variable, though these are weaker. The lack of correlations that are excessively high ($r > 0.80$) between the independent variables means that there are no concerns about multicollinearity, and therefore their inclusion together in the subsequent regression models can be permitted.

4.3 Results of direct effect hypothesis test

All three direct-effect hypotheses are strongly supported by the multiple regression analysis, as shown in Table 3. The overall model is very important ($p < .001$) and explains a lot of the difference in how people feel about the threat. The strongest predictor was found to be media exposure intensity ($\beta = 0.381, p < .001$), with H1 being

supported and it being indicated that a higher perceived threat is directly associated with greater consumption of conflict-related news. A significant positive influence is also shown by belief in IHL ($\beta = 0.295, p < .001$), with H2 being confirmed and it being suggested that concern for medical worker safety is amplified by a stronger normative belief in humanitarian law. Finally, a significant, albeit slightly weaker, positive effect is exerted by public trust ($\beta = 0.221, p < .001$), thereby supporting H3 and demonstrating that heightened perception of threat is linked to trust in institutions, possibly due to increased credibility attributed to reports of violations.

4.4 Results of moderation analysis: political affiliation

As shown in Table 4, the findings of the hierarchical regression analysis provide clear evidence of the moderating effect of political affiliation. The data reveals a positive and significant interaction between media exposure and political affiliation for H4 ($\beta = 0.152, p = .002$). This suggests that for individuals with stronger political affiliations, the relationship between media exposure and perceived threat is strengthened. Conversely, for H5, a negative and significant interaction between belief in IHL and political affiliation was found ($\beta = -0.118, p = .016$). This suggests that a robust political allegiance serves to diminish the beneficial impact of IHL on perceived threat, thereby indicating that political identity can supersede conventional humanitarian principles in the formation of risk perceptions.

4.5 Results of moderation analysis: media source filter

Testing H6 (see Table 5) yielded a significant negative interaction effect ($\beta = -0.171, p < .001$). The relationship between public trust and perceived threat is significantly moderated by the media source filter, as this result indicates. People who use a more critical media source filter are less likely to experience the positive effect of public trust on perceived threat. This suggests that people who check information from more than one place are less likely to be easily fooled by how much they trust healthcare organisations.

4.6 Summary of hypothesis testing

The validity of the entire proposed research model has been confirmed by the comprehensive analysis, which is summarised in Table 6. All six hypotheses are empirically supported. The results show that media exposure, belief in IHL and public trust have a significant direct influence on how much medical workers are perceived as being at risk. They also show that political affiliation and media source filter are critical in determining how this threat is perceived. This shows how complicated it is to understand what the public thinks. It shows that the main relationships are not the same and are greatly affected by individual characteristics such as political beliefs and how people process information.

4.7 Model fit summary for the integrated research model

Excellent explanatory power is demonstrated by the integrated model, in which all direct and moderating effects are incorporated, as shown in Table 7. The model accounts for 57.5% of the total variance in the perceived threat to medical workers' safety, according to an R^2 value of 0.575. The highly significant F-statistic ($F = 42.15$, $p < .001$) confirms that the model fits the data robustly. The theoretical framework has been validated and it has been indicated that a comprehensive and powerful explanation of the factors shaping societal perceptions in this critical context is collectively provided by the selected independent and moderating variables.

4.8 Discussion

This study provides a detailed understanding of the factors that influence how people in society feel about the safety of medical workers in places where there is conflict, with a particular focus on the situation in Sudan as seen from the perspective of people from Iran. The model, which is fully supported, shows how complicated this issue is. It shows that how we see things is not just based on what we see or what we believe. It is also strongly influenced by our own beliefs and thinking. The findings are in line with and build on existing theoretical frameworks, providing valuable insights into the social psychology of how people perceive conflict.

The strong impact of how much media exposure there is on how much threat is perceived is in line with the most important ideas of Cultivation Theory

in the digital age. In an age of worldwide information exchange, it seems that graphic depictions of attacks on healthcare infrastructure in Sudan, which are repeatedly and widely circulated in the media, have led to a heightened sense of risk among the Iranian public. This finding is in line with current research on the effects of the media, which shows that constant exposure to conflict-related content, even from a distance, can influence viewers' perceptions of reality and intensify feelings of vulnerability and threat within their own personal context (Brivio et al., 2024; Zhang & Lee, 2024; Truong et al., 2024). Such content is not consumed in isolation; it is processed through a pre-existing cultural and political framework. In this case, this framework has translated distant violence into a salient and concerning issue.

What's more, the strong positive connection between belief in International Humanitarian Law and perceived threat shows the powerful role of moral frameworks. Those who passionately advocate for the principles of IHL, which categorically demand the preservation of medical personnel, witness a heightened sense of urgency when these standards are blatantly disregarded, as is evident in Sudan. The Theory of Planned Behaviour can be used to interpret this finding. When faced with evidence that their beliefs have been breached, people who strongly believe in these beliefs experience a sense of cognitive dissonance. This, in turn, makes them perceive the breach as more severe (Fast et al., 2020; Barakat & Lattimore, 2023). The transgression is not merely regarded as an act of violence; rather, it is perceived as an onslaught against a fundamental moral and legal order, a perception that is likely to evoke a more profound emotional and perceptual response than a mere statistical rise in violence.

The positive influence of public trust on perceived threat presents a more complex picture, which is further complicated by the fact that trust can be fragile and easily damaged. While trust is usually seen as something that reduces anxiety, in this situation, higher levels of trust in healthcare professionals and aid organisations were linked to a higher perceived threat. This seemingly counterintuitive finding can be explained by the credibility heuristic. When high levels of trust are placed in these institutions by individuals, the reports and accounts of attacks emanating from them are more likely to be deemed highly credible and alarming by them (Hall et al., 2002; Okoro et al., 2024; Khalil et al., 2022). As a result, when a trusted

institution communicates about grave dangers, people take them seriously. This makes the perceived threat level higher than if the reports were met with scepticism or dismissed by distrusted sources.

The investigation also shows that these direct connections are not uniform but are significantly dependent on specific moderating elements. The moderating effect of political affiliation highlights the significant impact of ideological alignment on the processing of information. The discovery that a robust political allegiance fortifies the media exposure-perceived threat connection indicates that individuals comprehend media accounts through a biased perspective, where data is likely to be assimilated in a way that reinforces existing worldviews, thus amplifying its effect (Zhang & Lee, 2024). Even more interesting, the discovery that people's political beliefs can weaken the connection between believing in IHL and feeling threatened, shows how strong group identities can take over universal moral standards. It has been suggested that for highly politically affiliated individuals, the conditional application of humanitarian principles can be seen to result from the in-group's stance or narrative to which they are loyal (Tajfel & Turner, 1979; Stroud, 2017).

Similarly, a crucial layer of cognitive engagement is introduced by the moderating effect of media source filter. People who are good at checking information from different sources are less likely to be influenced by how much they trust institutions when it comes to how they perceive threats. This suggests that critical media literacy skills are important. This finding highlights the importance of media literacy in mitigating the impact of potential manipulation and one-sided narratives (Rahman et al., 2023; Amgain et al., 2023). It suggests that a careful and thoughtful way of using media can separate trust from the perception of risk. This can lead to a more independent and possibly more considered way of assessing risk.

The findings show that the public's view of how safe they think medical workers are is made up of many different parts, and is affected by how much information there is, what people believe to be true, how much confidence institutions have, and what people think on an individual level. The perceptions of the Iranian sample are shaped by a complex interplay of global media narratives, Islamic and

humanitarian values, trust in local and international health institutions, and a domestic political landscape that influences how external conflicts are understood. This study takes a more complex approach than a simple stimulus-response model, showing that the process of forming a local perception after witnessing a distant conflict is influenced by a complex set of cognitive and ideological factors.

The implications of these findings are substantial. This research shows that humanitarian organisations and health authorities need sophisticated communication strategies. These strategies need to take into account the political and media consumption habits of their target audiences. Just broadcasting evidence of attacks may not work in every situation. Messages must be adapted to deal with the filters of political affiliation and be shared through channels that are seen as trustworthy by people who consume a lot of media. The study's integration of Cultivation Theory, the Theory of Planned Behavior, and Social Trust Theory into a unified framework is a significant achievement. This is further enhanced by the delineation of their boundaries through the incorporation of key moderators, resulting in a more comprehensive model for comprehending perception formation in complex humanitarian emergencies.

5. Conclusion

This study demonstrates that the perceived threat to the safety of medical personnel in conflict zones is a holistic pattern based on sub-patterns of information, norms and institutions, which are all critically mediated by individual dispositions. Testing the proposed model empirically confirms that media exposure intensity, belief in international humanitarian law and public support for health and aid institutions are direct drivers of perceived threat. The study goes on to examine in more detail how these factors are not only separate from each other, but also strongly influenced by one's political identification and the theory of media filter. The strongest argument for the existence of relativism is the idea that these dispositions and critical filters can increase the effect of exposure and decrease the effect of universally recognised norms on aggression. This highlights a major limitation in the universal promotion of international norms by external actors, emphasising the importance of cultural appropriateness to the cause. At the same time,

critical filter theory's potential to weaken the trust–threat relationship demonstrates its key role in determining risk. The results of the current study provide a validated model that goes beyond simple schemas. This means that it offers a nuanced understanding of public perceptions of international conflict. The model is useful for academics, policymakers, and humanitarian practitioners. In particular, it shows that to protect medical care when there is hostility, you need to do two things. First, you must document crimes. Second, you must strategically navigate the complex socio-cognitive paradigms of global audiences. This will form an effective critical front and strengthen global bonds.

Limitation

Despite its contributions, this study has several limitations that need to be acknowledged and which present opportunities for future research. Firstly, the cross-sectional design is effective. It is good for capturing perceptions at a single point in time. However, it inherently restricts the ability to infer causal relationships. It also restricts the ability to observe the evolution of perceptions. This is because the conflict and its media coverage develop over time. Secondly, the online survey asked people to report their own data, which might make them want to answer in a way that seems good to the survey's designers. This could mean that the answers are not very accurate, especially on topics like political affiliation. A non-probability snowball sampling technique was used in third place. This was practical for reaching a diverse Iranian sample, but the findings are limited in terms of how far they can be generalised. This is because of the distinct media and political environments in other national contexts. Finally, while the study looked at the most important things that affect people's health, it did not look at other important things that might affect people's health, like if they have seen a war or if they have used healthcare before. This could make the model better. The inclusion of these additional variables, as well as probabilistic sampling methods and longitudinal designs, would be beneficial for future research in order to enhance causal inference and external validity.

Author Contribution

Shahin Farzaneh: Conceptualization, Methodology, Software, Validation, Formal analysis,

Investigation, Data Curation, Writing - Original Draft, Visualization, Project administration.

Nasrin Abdul Golshani: Methodology, Resources, Writing - Review & Editing, Supervision.

All authors have read and agreed to the final version of the manuscript.

Conflict of Interest

The authors declare no conflicts of interest, whether financial, personal, or professional, that could have influenced the work reported in this manuscript.

Data Availability

The datasets generated and analyzed during the current study are not publicly available due to confidentiality and ethical restrictions regarding participant privacy but are available from the corresponding author upon reasonable request.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Acknowledgements

The authors wish to thank the participants who shared their perspectives for this study. We also acknowledge the academic and administrative support provided by the Master Programme of Occupational Health and Safety, Universitas Indonesia.

Ethical Approval

This study was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

AI and AI-Assisted Technologies Statement

No generative AI technologies (such as ChatGPT) or AI-assisted technologies were used in the writing of this manuscript or the creation of its analytical

content. All intellectual and scholarly contributions were solely made by the human authors

Appendix Data Table Research

Appendix Data A. for sample stratification and professional distribution.

Stratum	Size	Recruitment Source	Example Professions/Backgrounds
Academics	100	Major Iranian Universities (e.g., University of Tehran, Sharif University, Tehran University of Medical Sciences)	Professors, Lecturers, Researchers in Social Sciences, Law, Medicine, and Media Studies.
University Students	150	Student associations and online university portals across various disciplines.	Undergraduate and Postgraduate students in Medicine, Law, Political Science, Journalism, and Humanities.
General Public	150	Social media platforms, online community forums, and professional networks.	Healthcare workers, Lawyers, Engineers, Civil Servants, Journalists, and other employed adults.
Total	400		

Appendix Data B. on measurement instrument construction and sources

Construct	Items	Sample Item (Translated to Farsi)	Adapted Source
Media Exposure Intensity	4	"I frequently encounter news about attacks on medical workers in conflict zones like Sudan."	Zhang & Lee (2024); Slater (2007)
Belief in IHL	3	"Medical workers in conflict zones must always be protected under international law."	Fast et al. (2020)
Public Trust	3	"I trust that international humanitarian organisations are reliable in protecting health workers."	Hall et al. (2002); Okoro et al. (2024)
Political Affiliation	2	"My political views significantly influence how I interpret news about international conflicts."	Zhang & Lee (2024)
Media Source Filter	2	"I check multiple sources before believing a report about health worker attacks."	Rahman et al. (2023)
Perceived Threat	3	"I believe violence against healthcare workers is a serious and increasing global problem."	Khalil et al. (2022)
Demographics	5	Age, Gender, Education Level, Profession, etc.	

Table 1. Descriptive statistics and scale reliability

Construct	items	Mean	Standard deviation	Cronbach's alpha
Media exposure (ME)	4	4.12	0.68	0.89
Belief in IHL (BIHL)	3	4.45	0.59	0.85
Public trust (PT)	3	3.58	0.91	0.88
Political affiliation (PA)	2	3.95	0.77	0.81
Media source filter (MSF)	2	3.22	0.84	0.79
Perceived threat (PTT)	3	4.28	0.63	0.87

Table 2. Correlation matrix of variables

Variable	1	2	3	4	5	6
Media exposure (ME)	1					
Belief in IHL (BIHL)	.214**	1				
Public trust (PT)	.185**	.297**	1			
Political affiliation (PA)	.162**	0.088	-.105*	1		
Media source filter (MSF)	.251**	.134**	.321**	0.074	1	
Perceived threat (PTT)	0.518	0.461	0.389	.211**	.286**	1

Table 3. Multiple regression results for direct effects

Hypothesis	Path	Beta (β)	t-value	p-value	Result
H1	X1 → Y	0.381	7.112	<.001	Supported
H2	X2 → Y	0.295	5.893	<.001	Supported
H3	X3 → Y	0.221	4.567	<.001	Supported

Table 4. Moderating effect of political affiliation

Hypothesis Model	Beta (β)	t-value	p-value	ΔR ²	Result
H4 Step 1: X1, M1 → Y					
Media exposure (X1)	0.375	7.021	<.001	0.291	
Political affiliation (M1)	0.088	1.845	0.066		
Step 2: X1*M1 → Y					
Interaction term (X1*M1)	0.152	3.128	0.002	0.021	Supported
H5 Step 1: X2, M1 → Y					
Belief in IHL (X2)	0.288	5.745	<.001	0.248	
Political affiliation (M1)	0.142	2.854	0.005		
Step 2: X2*M1 → Y					
Interaction term (X2*M1)	-0.118	-2.421	0.016	0.012	Supported

Table 5. Moderating effect of media source filter

Hypothesis	Model	Beta (β)	t-value	p-value	ΔR ²	Result
H6	Step 1: X3, M2 → Y					
	Public trust (X3)	0.215	4.421	<.001	0.189	
	Media source filter (M2)	0.201	4.128	<.001		
	Step 2: X3*M2 → Y					
	Interaction term (X3*M2)	-0.171	-3.502	<.001	0.026	Supported

Table 6. Summary of hypothesis testing results

Hypothesis	Relationship	Result
H1	Media exposure intensity → Perceived threat	Supported
H2	Belief in IHL → Perceived threat	Supported
H3	Public trust → Perceived threat	Supported
H4	Political affiliation moderates X1 → Y	Supported
H5	Political affiliation moderates X2 → Y	Supported
H6	Media source filter moderates X3 → Y	Supported

Table 7. Overall model fit summary

Statistic	Value
R	0.758
R ²	0.575
Adjusted R ²	0.561
F-statistic	42.15
p-value of F-statistic	< .001
Standard error of the estimate	0.418

References

- Adem, R., Nor, H. W., Fuge, M. M., Mohamed, A. H., Alfvén, T., Wanyenze, R. K., Guled, A. Y., Biday, M. M., Viberg, N., & Helldén, D. (2024). Linkages between the Sustainable Development Goals and health in Somalia. *BMC Public Health*, 24(1), 904. <https://doi.org/10.1186/s12889-024-18319-x>
- Agbo, K. C., Haruna, U. A., Oladunni, A. A., & Lucero-Prisno, D. E. (2024). Addressing gaps in protection of health workers and infrastructures in fragile and conflict-affected states in Africa. *Discover Health Systems*, 3(1), 36. <https://doi.org/10.1007/s44250-024-00106-5>
- Agramako, S. M. (2025). *Decolonizing Peace Agreements: Localizing Disarmament and Conflict Resolution in the Central African Republic BT - The Palgrave Handbook of Peace, Conflict and Security Studies in Africa* (E. O. Opongo, D. Kaulem, S. M. Mbula, & S. Njeri (eds.); pp. 429-448). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-92924-3_23
- Ahmed, S. M. M., Masaad, M. B., Abdulrahman, M. S. A., & Mohamedzain, E. M. I. (2025). Challenges and Choices Amidst Military Conflict: The Present and Future of Medical Education and Healthcare in Sudan. *Health Science Reports*, 8(1), e70334. <https://doi.org/https://doi.org/10.1002/hsr2.70334>
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314-324. <https://doi.org/https://doi.org/10.1002/hbe2.195>
- Ali, A. C., Yimam, S. M., Ayele, A. A., Biemann, C., & Semmann, M. (2025). *Silenced voices: social media polarization and women's marginalization in peacebuilding during the Northern Ethiopia War*. 24(2), 407-432. <https://doi.org/doi:10.1515/icom-2025-0007>
- Ayyad, F. A., Abdalsalam, R., Abdalla, E., Hamza, S. B., Alshareif, B. A., Ayyad, A. A., Salih, A., Hassan, R., Mamdouh, N., Emad, E., Adil, M., Abdelgader, M., Mohammed, H., Adam, M., Salahaldin, A., Shiekh, F., Tageldin, A., Mamoun, W., Alamir, A., & Hassan, M. E. (2025). Perceived disaster preparedness, knowledge, and skills among Sudanese healthcare professionals during the armed conflict: cross-sectional study, 2024. *BMC Emergency Medicine*, 25(1), 79. <https://doi.org/10.1186/s12873-025-01238-4>
- Ba-Break, M., Donnelly, S., Saleh, M., Kaity, A. M., Alwaqedi, A., Badheeb, A. M., Mohammed, N. A., Alosaimi, A. N., Al-Haddi, J. A., & Annuzaili, D. A. (2025). COVID-19 surveillance in fragile health systems, armed conflict and humanitarian crisis, the case of Yemen. *International Journal of Healthcare Management*, 18(3), 465-477. <https://doi.org/10.1080/20479700.2024.2318508>
- Burkle, F. M., Kushner, A. L., Giannou, C., Paterson, M. A., Wren, S. M., & Burnham, G. (2019). Health Care Providers in War and Armed Conflict: Operational and Educational Challenges in International Humanitarian Law and the Geneva Conventions, Part II. Educational and Training Initiatives. *Disaster Medicine and Public Health Preparedness*, 13(3), 383-396. <https://doi.org/DOI: 10.1017/dmp.2018.42>
- Ciftci, S. (2012). Islamophobia and Threat Perceptions: Explaining Anti-Muslim Sentiment in the West. *Journal of Muslim Minority Affairs*, 32(3), 293-309. <https://doi.org/10.1080/13602004.2012.727291>
- Crowley, J., & Wells, J. S. G. (2025). Assaulting Medical Neutrality: Reflections on Attacks on Healthcare and Clinicians in the Two World Wars and Implications for Contemporary Conflicts. *Nursing Inquiry*, 32(4), e70052. <https://doi.org/https://doi.org/10.1111/nin.70052>

- Dahab, M., AbuKoura, R., Checchi, F., Ahmed, A., Abdalla, O., Ibrahim, M., Abdelmagid, N., Zain Alabden, I., Omer, L., Alhaffar, M., Ekoriko, P., Ali, Z. I. A., Grundy, C., Ndow, M., Cassini, L., & McGowan, C. R. (2025). War-time mortality in Sudan: a multiple systems estimation analysis. *The Lancet Global Health*, 13(9), e1583–e1590. [https://doi.org/10.1016/S2214-109X\(25\)00228-1](https://doi.org/10.1016/S2214-109X(25)00228-1)
- Eid, M. (2014). *Perceptions about Muslims in Western Societies BT - Re-Imagining the Other: Culture, Media, and Western-Muslim Intersections* (M. Eid & K. H. Karim (eds.); pp. 99–119). Palgrave Macmillan US. https://doi.org/10.1057/9781137403667_6
- Hamamra, B., Mahamid, F., & Mayaleh, A. (2025). Childhood under siege: battling malnutrition, disease, and despair during genocide in Gaza. *Journal of Health, Population and Nutrition*, 44(1), 321. <https://doi.org/10.1186/s41043-025-00948-6>
- He, M., He, C.-Q., & Ding, N.-Z. (2025). Human viruses: An ever-increasing list. *Virology*, 604, 110445. <https://doi.org/https://doi.org/10.1016/j.virol.2025.110445>
- Hill, R., Diener, K. J., Miller, S., & White, T. (2006). IDP LIVELIHOODS AND PERSONAL SECURITY: CASE STUDIES FROM COLOMBIA AND SUDAN. *Refugee Survey Quarterly*, 25(2), 40–59.
- HOWELL, A. (2014). The Global Politics of Medicine: Beyond global health, against securitisation theory. *Review of International Studies*, 40(5), 961–987. <https://doi.org/DOI: 10.1017/S0260210514000369>
- Jawad, R., Plagerson, S., & Jaskolski, M. (2025). A critical review of the state-of-the-art on social policy, conflict and peace in the Middle East and North Africa region: Why social policy matters for peace and why it is also not enough. *World Development*, 187, 106861. <https://doi.org/https://doi.org/10.1016/j.worlddev.2024.106861>
- Ketsekioulafis, I., Katsos, K., Kolentinis, C., Kouzos, D., Moraitis, K., Spiliopoulou, C., & Sakelliadis, E. I. (2025). Humanitarian forensic medicine: a systematic review. *International Journal of Legal Medicine*, 139(2), 747–761. <https://doi.org/10.1007/s00414-024-03381-2>
- Khan, J. A., & Ali, R. (2018). Challenging Misconceptions: Media Portrayal of Islam and Its Impact on Public Perception. *Journal of Policy Options*, 1(1 SE-Articles), 30–40.
- Kostandova, N., OKeefe, J., Mahieu, A., Ali, B. B., Mulamba, C., Somsé, P., Bingou IV, O. G., Dackpa, S., Mbonimpa, G., Fikiri, T., Fast, L., & Rubenstein, L. (2025). Healthcare under fire: quantifying the impact of violence on medical services in facilities supported by International Medical Corps in three prefectures of Central African Republic, 2016–2020. *Conflict and Health*, 19(1), 57. <https://doi.org/10.1186/s13031-025-00686-w>
- Lachaud, J., Yusuf, A. A., Maelzer, F., Perri, M., Gogosis, E., Ziegler, C., Mejia-Lancheros, C., & Hwang, S. W. (2024). Social isolation and loneliness among people living with experience of homelessness: a scoping review. *BMC Public Health*, 24(1), 2515. <https://doi.org/10.1186/s12889-024-19850-7>
- Lewis, J. D., & Weigert, A. J. (1985). Social Atomism, Holism, and Trust. *The Sociological Quarterly*, 26(4), 455–471. <https://doi.org/10.1111/j.1533-8525.1985.tb00238.x>
- Mamun, M. A. (2024). How can the protection of medical personnel and facilities under international humanitarian law be strengthened? *Medicine, Conflict and Survival*, 40(3), 276–284. <https://doi.org/10.1080/13623699.2024.2382833>
- Maor, M., Rimkuté, D., & Capelos, T. (2025). Emotions and Reputation Learning by Audience Networks: A Research Agenda in Bureaucratic Politics. *Public Administration Review*, n/a(n/a). <https://doi.org/https://doi.org/10.1111/puar.70004>
- Mengistie, C. T., Girma, S. M., Mengistie, B. T., Yigzaw, H. D., Tadesse, S. Z., Estifanos, H., Teferi, M. G., & Awad, A. K. (2025). Financing surgery in LMICs: building sustainable and equitable systems for universal surgical access – a narrative review. *BMC Surgery*, 25(1), 516. <https://doi.org/10.1186/s12893-025-03204-0>

- Mesmer, Kelsey, Jahng, M. Rosie, Wurm, Jill, & Akther, Najma. (2024). "Glorified Minute Takers": Journalists' (Mis)handling of Scientific Uncertainty During the COVID-19 Pandemic. *Science Communication*, 46(6), 790–815. <https://doi.org/10.1177/10755470241261337>
- Narayan, S. M., Chung, M. K., Adedinsewo, D., Brant, L. C. C., Davis, L. L., Duncker, D., Hall, J. L., Han, J. K., Lam, C. S. P., Lewis, E., Loscalzo, J., Márquez, M. F., Rahimzadeh, V., Rodriguez, F., Sanders, P., Svennberg, E., Stein, K., Turakhia, M., Yancy, C., & Armoundas, A. A. (2025). Access to digital health technologies: personalized framework and global perspectives. *Nature Reviews Cardiology*. <https://doi.org/10.1038/s41569-025-01184-5>
- Nsokele, C. M., & Kika, F. K. (2024). Local knowledge and information initiatives in the conflict-affected eastern Democratic Republic of Congo. *Development in Practice*, 1–15. <https://doi.org/10.1080/09614524.2024.2349056>
- Peters, L. E. R., Charnley, G. E. C., Roberts, S., & Kelman, I. (2025). Public health disinformation, conflict, and disease outbreaks: a global narrative integrative review to guide new directions for health diplomacy. *Global Health Action*, 18(1), 2562380. <https://doi.org/10.1080/16549716.2025.2562380>
- Qiu, H.-L., Chen, H.-Y., Xie, Y.-T., Zhou, G.-L., Yang, K.-Z., Huang, H.-J., Jiang, J.-C., Zhu, X.-Q., Wang, L., Yan, K., Dong, G.-H., Fan, S., Wang, Z., Hu, Q., Zhang, Z., & Yang, B.-Y. (2025). Green spaces and preventable disease and economic burdens in China from 2000 to 2020: A health impact assessment study. *Landscape and Urban Planning*, 261, 105393. <https://doi.org/https://doi.org/10.1016/j.landurbplan.2025.105393>
- Rubinelli, S. (2025). The paradox of autonomy: A discussion paper. *Patient Education and Counseling*, 139, 109232. <https://doi.org/https://doi.org/10.1016/j.pec.2025.109232>
- Sarathchandra, D., & Taylor, C. A. L. (2025). Perceived risk, health protective behavior, and trust: a case study of the flint water crisis. *Environmental Sociology*, 11(2), 198–212. <https://doi.org/10.1080/23251042.2024.2408703>
- Shenbagam, S., Taylor, A., Jain, R., Fakhro, K., Alkuraya, F., & Abou Tayoun, A. (2025). Genetic counseling in the Middle East: provider perspectives of patient attitudes and cultural challenges. *Human Genomics*, 19(1), 59. <https://doi.org/10.1186/s40246-025-00770-5>
- Smith, M. R., & Backer, C. (2025). *Chapter 27 - Battling misinformation* (D. B. T.-D. H. Patel (ed.); pp. 379–394). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-0-443-23901-4.00027-1>
- Smith, S. L., & Donnerstein, E. (1998). 7 - *Harmful Effects of Exposure to Media Violence: Learning of Aggression, Emotional Desensitization, and Fear* (R. G. Geen & E. B. T.-H. A. Donnerstein (eds.); pp. 167–202). Academic Press. <https://doi.org/https://doi.org/10.1016/B978-012278805-5/50008-0>
- Söderberg, M., Swaid, J., Aurelius, K., Rosengren, A., Jakobsson, K., & Magnusson, M. (2024). Information access and COVID-19 vaccination hesitancy among foreign-born persons in Sweden – a focus group interview-study. *BMC Public Health*, 24(1), 3389. <https://doi.org/10.1186/s12889-024-20959-y>
- Taha, S., Anabtawi, M., & Al Wreidat, T. (2024). Silent suffering: The hidden challenges confronting unaccompanied refugee children through the eyes of social workers. *Child Abuse & Neglect*, 154, 106868. <https://doi.org/https://doi.org/10.1016/j.chiabu.2024.106868>