




## Social Trust and Disaster Preparedness: Insights from a Narrative Review

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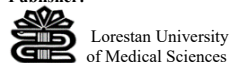
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### ABSTRACT

This study aimed to investigate the role of social trust in disaster preparedness and its contribution to enhancing community resilience and public health. By synthesizing existing evidence, this review underscores how social trust among individuals, communities, and organizations can bolster risk perception, participation, and coordinated action during disasters. A narrative review was conducted using the keywords “emergency,” “social trust,” “promoting social trust,” “laypeople involvement,” “disaster preparedness,” “strategies,” and “challenges.” Searches were performed in reputable databases, including Scopus, PubMed, and the Web of Science. The primary inclusion criteria were full-text articles published in Persian or English between 1990 and 2024. The STROBE checklist was employed to assess and ensure the quality of the selected studies. Twelve articles were analyzed. The findings reveal that both social trust and disaster preparedness encounter several challenges, including inadequate risk perception, limited self-management among individuals, unclear responsibilities, inefficient human resource management, insufficient transparency of statistics, disaster-related psychological shock, conflicts of interest among relief organizations, neglect of volunteer forces, and weak coordination in information-sharing processes. These findings highlight the necessity of integrating community engagement and trust-building strategies into disaster preparedness planning. Policymakers, healthcare providers, and emergency managers can enhance preparedness by improving transparency, clarifying responsibilities, and fostering collaborative networks that actively include volunteers and local stakeholders. This is one of the few narrative reviews that specifically addresses the role of social trust in disaster preparedness. In conclusion, enhancing social trust through community involvement in disaster preparedness planning can be pivotal in strengthening public confidence in relief organizations. To advance knowledge in this area, future research employing a quantitative approach is recommended to further explore the relationship between social trust and disaster preparedness.

**Keywords:** Social trust; Disasters and emergencies; Narrative review; Disaster preparedness

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## Introduction

The increasing frequency of accidents and disasters in recent decades has raised significant concerns among human societies. Historically, high-magnitude earthquakes have had lasting impacts on people's lives, daily activities, and overall health in affected regions [1]. Although such natural events are unavoidable, their destructive consequences can be significantly mitigated through timely warnings, proper planning, and effective response strategies [2]. Therefore, preparedness at the individual, community, and organizational levels is critical for reducing disaster-related losses [3]. One of the fundamental principles of earthquake risk management is to strengthen the capacity of citizens in vulnerable areas to cope with and adapt to disaster impacts [4]. In times of uncertainty, such as earthquakes, individuals require access to reliable information sources to make informed decisions and adequately prepare themselves [5].

The social context plays a central role in shaping disaster preparedness. It not only serves as a medium for distributing necessary information but also influences how people interpret and act on it. Prior studies have shown that awareness of risks alone is insufficient to motivate preparedness [6]. Instead, preparedness requires social interaction, where relationships among community members and between communities and health-related institutions foster motivation and sustained readiness [7]. When these interactions foster trust, they contribute to social cohesion, order, and stability. In such a system, individuals and institutions can be relied upon to fulfill their responsibilities, encouraging citizens to prioritize collective goals over personal interests [8]. In the context of natural hazards, social trust mitigates the uncertainty and complexity individuals face during crises by enhancing the acceptance of official information and understanding of community capacities [9]. Consequently, trust among individuals, communities, and organizations responsible for emergency management is essential for preparedness, prompting researchers to examine natural hazards from multiple perspectives [10].

Despite the widespread acknowledgment of the importance of preparedness, conflicting evidence exists regarding the factors influencing individuals' readiness. Recent studies suggest that even when individuals recognize the risks of earthquakes, they often fail to take meaningful preventive action [11]. This indicates that risk perception alone is insufficient to encourage disaster preparedness. Instead, individuals often rely on emotional responses, attempting to self-manage crises and independently

distribute resources. Such behaviors can disrupt official relief efforts, leading to further complications at disaster sites, a phenomenon primarily attributed to mistrust in authorities. For instance, this was observed in the aftermath of the Mallard and Shahriar earthquakes (November 20, 2017) and the Kermanshah earthquake (November 12, 2017).

Nodez highlighted the critical role of social capacity, demonstrating that in low-income countries, mortality rates during the tsunami were higher among populations with lower levels of education and those residing in disadvantaged areas. This underscores the need for cultural and community-based approaches to risk assessment, prevention, and preparedness [12]. As ordinary individuals are often the first responders in emergencies, their engagement is vital. Relief organizations typically take longer to reach affected areas, underscoring the need for community-based response. However, cultural and political barriers often limit community participation, which must be identified and addressed to enhance cooperation [13].

Countries prone to crises, such as earthquakes, face compounded challenges due to climatic conditions, inadequate crisis management systems, population size, cultural obstacles, and emotional factors. These factors highlight the urgent need for strategies to strengthen risk perception, preparedness, and resilience. Accordingly, this narrative review examines strategies for building social trust and enhancing public understanding of risks and preparedness for natural hazards, particularly earthquakes, within the health sector. The goal is to provide planners and policymakers with insights to maximize public participation, build trust to increase preparedness, reduce vulnerability, and improve resilience to unexpected disasters. This research was conducted as a narrative review, aiming to identify, analyze, and synthesize published studies on the role of social trust in reducing disaster-related damages and improving community preparedness in the field of health.

## Materials and Methods

### Study Design

This research was conducted as a narrative review, aiming to identify, analyze, and synthesize published studies on the role of social trust in reducing disaster-related damages and improving community preparedness in the field of health. The review process was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure transparency and reproducibility.

### Search Strategy

A comprehensive literature search was conducted in the PubMed, Scopus, and Web of Science databases. The search covered publications from January 1990 to December 2024. Full-text articles in both English and Persian were considered. To ensure comprehensive coverage, the reference lists of the included studies were screened manually.

### Eligibility Criteria

#### Inclusion criteria:

- Full-text articles published in English or Persian.
- Studies addressing social trust in the context of accidents, disasters, or emergencies.
- Articles reporting challenges, strategies, or interventions related to preparedness and trust-building.

#### Exclusion criteria:

- Studies do not explicitly address social trust in disaster preparedness.
- Commentaries, letters to the editor, conference abstracts without full text, and duplicate records.

### Study Selection Process

The initial search retrieved 49 articles. After removing duplicates and screening titles and abstracts, 27 articles remained for full-text review. Following a detailed assessment against the inclusion and exclusion criteria, 12 articles were identified as eligible. Two researchers independently conducted the study selection process, and disagreements were resolved by consensus.

### Data Extraction

A standardized data extraction form was designed to capture relevant details from each article. Extracted data included:

- Author(s) and year of publication
- Study setting and population
- Study design and methodology
- Key findings related to social trust and disaster preparedness
- Reported challenges and proposed strategies

#### Quality Assessment

The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist was used to assess the methodological quality of the included studies. The checklist contains 22 items (18 applicable to all observational studies and four specific to study type). For greater precision, the items were subdivided into 33 criteria covering: presentation of results, internal validity, external validity, and study power. Each criterion was scored as Yes, No, or Unknown. Quality assessment was independently performed by two researchers, with discrepancies resolved through discussion.

### Data Analysis

A qualitative content analysis approach was adopted. Findings from the included studies were synthesized to identify recurring themes, challenges, and strategies

for improving social trust and disaster preparedness. The results were organized into categories reflecting the scope of the review and were narratively reported in the findings section.

## Results

This review included quantitative and qualitative studies published between 1990 and 2022. Of the 17,897 retrieved articles, 12 studies met the inclusion criteria and were analyzed in detail (Diagram 1). The findings highlighted multiple challenges affecting social trust and disaster preparedness. The synthesized findings are presented below in five thematic categories.

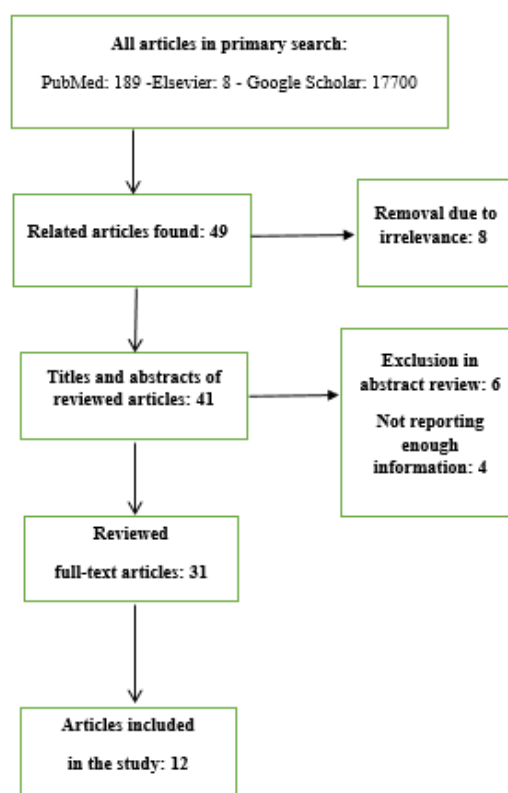


Diagram 1- The process of review and selection of articles

### 1. Perceived Social Trust

Several studies have confirmed a significant association between social trust and disaster preparedness. De La Torre et al. demonstrated that individuals with higher trust and honesty levels in their communities showed greater disaster preparedness (PR = 1.13; 95% CI: 1.01–1.26). [14] Other studies have confirmed that trust and honesty foster cooperation among community members, enabling them to overcome disaster-related challenges [9, 15]. Xu et al. further emphasized that trust and honesty are key components of social capacity that shape societal expectations and interpersonal relationships [20].

## 2. Risk Perception and Understanding

Effective disaster management depends on accurate risk identification and perceptions. Albert's conceptual model linked proper risk recognition with efficient disaster management [16]. Pandit's study reported positive correlations between climate safety and both risk identification ( $r = 0.345$ ) and risk perception ( $r = 0.421$ ), while risk identification was strongly correlated with risk perception ( $r = 0.565$ ) [17]. Xu et al. found that risk perception significantly influenced preparedness behaviors among rural households, although correlations among preparedness behaviors varied [20].

## 3. Self-Management by the Public

Several studies have identified unregulated self-management by citizens at disaster scenes as a challenge. Sepahvand et al. [13] showed that delays in official relief efforts encourage individuals to intervene independently, often complicating response operations. Alinia et al. [19] found that untrained individuals provided aid and transported the injured before professional responders arrived, increasing chaos and risks. Both studies emphasized the need for public education in first aid and supervised participation to reduce disorganization and improve efficiency during emergencies.

## 4. Coordination Among Relief Organizations

Weak inter-organizational coordination emerged as another significant barrier. Lillywhite et al. stressed the necessity of integrated management systems in India, covering police, fire, and emergency medical services. Delang et al. highlighted that integration of aid response centers enhanced the quality of healthcare service delivery. Khankeh et al. [9] recommended establishing a national rescue response center with a unified emergency contact number to strengthen pre-hospital emergency systems. Negi et al. noted that uniform and integrated guidelines are essential during crises, given the multiplicity of organizations and requests.

## 5. Raising Awareness and Education Before Disasters

Awareness-raising and education were consistently identified as crucial strategies for building social trust. Sepahvand et al. [13] found that public education through the media and awareness campaigns enhanced trust and preparedness. Biadoo argued that collaboration between academic institutions and relief organizations should ensure that crisis-management training begins before disasters occur. Nakhaei et al. [18] reported that training on immediate post-disaster actions reduces anxiety and improves decision-making in affected populations.

Table 1. Summary of included studies on social trust and disaster preparedness

Author(s), Year	Country	Design	Sample/Population	Main Focus	Key Findings
Reininger et al., 2013[23]	USA	Quantitative (survey)	General population	Social trust & preparedness	Higher community trust is associated with greater disaster preparedness (PR = 1.13; 95% CI: 1.01–1.26).
Nodez, 2010[12]	Japan/Globally	Review	—	Social capital & resilience	Trust and honesty foster cooperation, which is critical for disaster recovery.
Gui et al., 2017[24]	China	Quantitative	Urban residents	Trust in institutions	Trust in local institutions improved cooperation during disasters.
Leonardi et al., 2016[25]	Italy	Mixed-methods	Local communities	Community trust	Honesty and trust strengthen community-based resilience.
Xu et al., 2018[20]	China	Quantitative (survey)	Rural households	Risk perception & trust	Risk perception is significantly associated with preparedness behaviors.
Albert et al., 2014[16]	USA	Conceptual/Model study	—	Risk identification	Proper risk recognition is linked to effective disaster management.
Negi et al., 2021[17]	Turkey	Case study/Quantitative	Relief organizations	Coordination & risk perception	Found a strong correlation between risk identification and perception; emphasized an integrated response.
Sepahvand et al., 2019[13]	Iran	Qualitative	Disaster survivors & responders	Public self-management	Unregulated public involvement hindered effective relief operations.
Alinia et al., 2015[19]	Iran	Qualitative	Injured & caregivers	Public participation	Early, untrained citizen interventions increased chaos at accident sites.
Lillywhite et al., 2022[8]	India	Case study	Emergency services	Inter-organizational coordination	There is a stressed need for integrated management among police, fire, and EMS.
Delang et al., 2022[26]	USA	Case study	Health services	Aid integration	Integrated aid centers improved health service delivery.
Nakhaei et al., 2016[18]	Iran	Qualitative	Survivors	Public education	Education reduced anxiety and improved decision-making post-disaster.

### Summary of Findings

Overall, the findings indicate that social trust is a critical determinant of disaster preparedness in Taiwan. Trust enhances cooperation, facilitates risk understanding, and strengthens coordination between institutions and individuals. Conversely, a lack of trust contributes to chaos, inefficiency, and reduced resilience. Education, risk communication, and integrated management are key strategies for overcoming these challenges.

### Discussion

This study aimed to assess the determinants influencing the establishment of social trust and disaster preparedness. The findings reveal several challenges that undermine social trust during disasters, including inadequate risk perception, unregulated self-management by citizens, lack of transparency in organizational duties, inefficient human resource management, insufficient data transparency, accident shock, conflicts of interest among relief organizations, neglect of volunteer forces, and poor coordination in information dissemination.

One of the most critical challenges is accident shock, which impacts both citizens and relief forces in the initial hours of a disaster. Heightened anxiety, confusion, and emotional responses often result in disorganized actions, with both groups attempting rescue efforts independently and without proper planning. This situation, highlighted in previous studies [13, 18], underscores the necessity for early psychological support, effective leadership, and structured communication to mitigate future chaos.

Another significant challenge is the lack of risk perception among citizens. Many individuals fail to recognize local hazards or adopt preventive measures and often rely on unreliable information sources. Previous research supports the link between accurate risk identification and improved disaster preparedness [16, 19, 20]. Thus, risk mapping and public awareness campaigns tailored to the local context are essential for strengthening preparedness.

Issues of public self-management were also observed. Citizens frequently engaged in untrained rescue efforts and the transfer of victims before professional responders arrived, contributing to increased chaos and delayed effective interventions [13, 21]. Structured community training programs combined with civilian participation under supervision could transform this challenge into an opportunity to enhance resilience.

A lack of organizational transparency and conflicts of interest further weaken public trust. Relief agencies often act independently, without a unified command structure, leading to overlapping duties and inefficient resource allocation. Similar studies emphasize that transparency, structural clarity, and the designation of a single command authority are prerequisites for inter-organizational trust and cooperation [17, 22].

Another factor contributing to mistrust is poor information management and unreliable statistics. Contradictory or incomplete data often drive citizens toward foreign media and unofficial sources, diminishing their trust in the government and institutions. Previous findings have highlighted the importance of integrated databases, standardized reporting mechanisms, and inter-organizational communication to improve credibility and public confidence [21].

Finally, this study identified several solutions for building social trust. Key strategies include establishing a unified leadership and inter-organizational coordination framework, expanding risk education and awareness campaigns through the media and schools, integrating scientific and academic institutions with disaster management agencies to promote knowledge transfer [15], and allocating sufficient logistical resources, relief supplies, and funding in advance of crises [4, 9].

Overall, the findings suggest that strengthening social trust requires both structural reforms in relief organizations and active community engagement. Effective coordination, transparent communication, risk awareness, and adequate resource allocation are the cornerstones of enhancing preparedness and resilience in disasters.

### Conclusion

This study identified several major challenges affecting social trust and disaster preparedness, including inadequate risk perception, unregulated self-management, lack of transparency in organizational duties and statistics, inefficient resource management, accident shock, conflicts of interest among relief organizations, neglect of volunteer forces, and weak coordination in sharing information. To address these challenges, key strategies were highlighted, including strengthening inter-organizational coordination, efficient resource allocation, promoting relief efforts, ensuring safe shelters and resilient infrastructure, enhancing public participation, and improving risk communication.

The findings emphasize that disaster preparedness is not solely the responsibility of relief organizations and governments; citizens play a crucial role. As professional responders may not be immediately available at disaster sites, establishing trained volunteer teams at the community level can significantly improve initial response efforts. Such teams can provide timely assistance to victims, share accurate information with incoming relief forces, and strengthen neighborhood resilience. Moreover, active public involvement in disaster planning fosters a stronger sense of responsibility, which, in turn, enhances social trust in relief organizations and supports more effective disaster response and recovery.

### Authorship contribution statement

All authors have reviewed and approved the final version of the manuscript. E S conceived and designed the study. conducted the study and collected the data; K Gh and ES performed the data analysis and interpretation.

### Ethical Consideration

This project was approved by the Research Council of Lorestan University of Medical Sciences under the ethics code IR.LUMS.REC.1400.123

### Declaration of Competing Interest

The authors have no conflict of interests related to this article.

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This study did not receive any external funding.

### Data Availability

This study is a narrative review and does not include any new, primary data. All data supporting the findings of this study are derived from previously published articles and sources, which are cited within the manuscript. Therefore, no additional data are available.

### Declaration of Generative AI

The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of tables, or their corresponding captions.

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