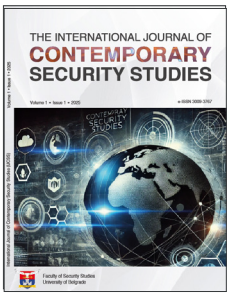
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*Article*

# Public Awareness, Trust, and Willingness to Engage with the Red Cross in Disaster Preparedness and Response: A Cross-Sectional Study in Serbia

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## ABSTRACT

Humanitarian organizations depend on citizens who understand their roles, trust their actions, and are willing to participate in preparedness and response. This study examined public awareness, trust, perceived preparedness and effectiveness of the Red Cross of Serbia, expectations of humanitarian organizations, and willingness to engage in disaster-related activities. We analyzed a cross-sectional online survey of 155 adults in Serbia after item-level quality control. Composite scales showed high internal consistency (Cronbach's alpha = 0.908-0.957). HC3-robust multiple regression indicated that awareness was the strongest independent correlate of trust (beta = 0.543, $p < 0.001$), perceived preparedness/efficiency (beta = 0.580, $p < 0.001$), and expected humanitarian role (beta = 0.545, $p < 0.001$). In the full engagement-readiness model, awareness (beta = 0.318, $p < 0.001$) and expected humanitarian role (beta = 0.346, $p = 0.002$) remained significant, explaining 45.9% of variance; trust was significant in the reduced model (beta = 0.253, $p = 0.005$) but not after expected role was added. Direct Red Cross contact was associated with higher awareness (Hedges g = 0.51) and readiness (g = 0.53), and nonparametric sensitivity analysis supported settlement differences in readiness. Pearson correlations showed strong overlap between trust and preparedness/efficiency ($r = 0.884$, $p < 0.001$), whereas readiness correlated moderately with interest in future participation ($r = 0.478$, $p < 0.001$). In ordinal logistic regression, a one-point increase in readiness was associated with 3.40 times higher odds of being in a higher future-interest category (95% CI [2.04, 5.65]). The findings indicate that actionable awareness, role clarity, and visible organizational value are central correlates of citizen engagement, while demographic differences are comparatively limited.

## KEYWORDS

Disaster risk reduction; Red Cross; humanitarian organizations; public awareness; institutional trust; volunteering; citizen engagement; preparedness; Serbia.

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## 1. Introduction

Disaster risk management increasingly relies on an all-of-society architecture in which public authorities, professional emergency services, humanitarian organizations, community groups, volunteers, and households contribute complementary capacities (Clark et al., 2025). This architecture matters most when formal response systems face surge demand, geographically dispersed needs, or prolonged recovery, because resilience depends on connecting institutional capability with local knowledge and citizen action rather than treating communities as passive recipients of protection (Biñas & Cañete, 2025). Humanitarian organizations occupy a distinctive position because they combine institutional continuity with community presence, volunteer networks, relief delivery, public communication, training, and support to vulnerable populations (Islam et al., 2026). Their operational capacity therefore depends not only on logistics and professional standards but also on the quality of their relationship with the public, including trust, role legitimacy, accessibility, and opportunities for meaningful participation (Krogh & Lo, 2025).

The Red Cross of Serbia provides a particularly relevant setting for examining the citizen-humanitarian relationship because its mandate combines humanitarian assistance, volunteer mobilization, preparedness activities, and community support (Janković et al., 2025). Serbian legislation assigns the organization public-interest and humanitarian functions, while the national disaster-risk-reduction framework situates preparedness and response within a broader system that includes state institutions, local authorities, humanitarian actors, and citizens, a configuration consistent with integrated disaster-governance scholarship in Serbia (Republic of Serbia, 2005, 2018; Milenković, 2025). Recent research on the Red Cross of Serbia shows that its contribution extends beyond material relief to volunteer training and psychosocial support, while public awareness and institutional integration remain important conditions for effective implementation (Janković et al., 2025). Citizens may encounter the organization through first-aid training, blood donation, volunteering, humanitarian assistance, preparedness education, or public information, and such repeated interfaces can strengthen organizational familiarity and the practical knowledge needed for engagement (Swan-Keig et al., 2024). Direct and indirect contact may therefore shape what citizens know about the organization, whether they trust it, how they evaluate its preparedness and usefulness, and whether they are willing to participate in future activities (Paton, 2007).

Three linked problems motivate this study because disaster preparedness research repeatedly shows that information, trust, efficacy, and participation are related but analytically distinct components of public engagement (Ni et al., 2025). First, awareness is uneven: citizens may recognize the Red Cross brand while remaining uncertain about specific disaster-related roles, local contact channels, or pathways into volunteering, a distinction consistent with evidence that awareness does not automatically translate into preparedness or adoption of protective practices (Cisternas et al., 2023). Second, trust is multidimensional and context-dependent; confidence in fairness, reliability, competence, and timeliness can overlap with perceived organizational effectiveness but should not be treated as conceptually identical (Liu & Mehta, 2021). Third, willingness to help does not automatically translate into organized participation because organizational and individual conditions shape volunteering decisions (Ma et al., 2021). Research on disaster volunteering shows that participation depends on organizational identification, role clarity, training quality, safety, social support, and the practical architecture through which citizens are mobilized (Shi et al., 2018). The transition from prosocial intention to training, registration, volunteering, donation, or adherence to organizational guidance is therefore best understood as both an institutional and an individual process (Johansson, 2024).

Serbia has an established empirical research tradition on citizen preparedness, risk communication, demographic determinants, support to vulnerable people, volunteering, and community resilience (Cvetković et al., 2021). Earlier studies showed that flood preparedness varies with fear, motivation, income, marital status, religiosity, gender, and education, while later work identified demographic and socioeconomic predictors of risk communication and broader community resilience (Cvetković, 2016a, 2016b, 2016c, 2016d; Cvetković et al., 2017; Cvetković, Roder, Öcal, Tarolli, & Dragićević, 2018; Cvetković & Milojković, 2016; Cvetković & Šišović, 2024). Household earthquake research and recent nationwide resilience modeling likewise indicate that preparedness and

resilience are multidimensional and spatially and socially differentiated rather than reducible to a single demographic profile (Cvetković et al., 2019; Cvetković et al., 2026). Yet less is known about the integrated citizen-humanitarian relationship: whether actionable awareness, trust, perceived organizational capacity, direct contact, disaster experience, and expected humanitarian roles jointly explain readiness to engage with a specific humanitarian organization, even though all-of-society research increasingly identifies these relational interfaces as central to resilience (Clark et al., 2025). The present study addresses this gap by applying transparent scale construction, psychometric assessment, robust multivariable regression, bivariate analyses, nonparametric sensitivity analyses, and ordinal logistic regression (Blackburn et al., 2025; Cvetković & Šišović, 2024).

### *1.1. Literature Review and Theoretical Framework*

#### 1.1.1. Humanitarian Organizations, Collaborative Governance, and Citizen Co-Production

Contemporary disaster governance is best understood as distributed capacity rather than an exclusively hierarchical function (Clark et al., 2025). Complex emergencies create interdependencies among public authorities, professional responders, humanitarian and nonprofit organizations, community groups, and citizens because no single actor possesses all the information, legitimacy, surge capacity, and local reach required across preparedness, response, and recovery (Enjolras et al., 2024). European scholarship explicitly frames this as an all-of-society problem in which resilience depends on the capacity to connect formal systems with civil society and citizen action (Clark et al., 2025). Serbian scholarship reaches a compatible conclusion: social cohesion, institutional trust, local capacity, and citizen participation are central to an integrated disaster-risk-reduction system, while institutional fragmentation can weaken implementation at the local level (Milenković, 2025). Evidence from Norway likewise shows that emergency-response effectiveness depends on interactions among procedures, leadership, communication, technology, and trust across formal and voluntary actors (Enjolras et al., 2024). Research in Denmark and Norway further shows that nonprofit organizations can serve as trust-supporting infrastructures that register, coordinate, and structure citizen participation, making co-produced emergency response more predictable and operationally usable for professional incident commanders (Krogh & Lo, 2023a, 2025).

This intermediary function is particularly relevant to Red Cross organizations because humanitarian organizations often connect formal emergency systems with community-based participation and volunteer capacity (Le Dé et al., 2024). Volunteer programs can strengthen local disaster risk reduction when they combine technical competence with communication, facilitation, coordination, role clarity, and community ownership (Le Dé et al., 2024). The New Zealand Red Cross 'Good and Ready' initiative showed that sustainable volunteer engagement depends not only on preparedness content but also on balancing standardized support with local flexibility and volunteer autonomy (Le Dé et al., 2024). Volunteer-led flood response in Bangladesh similarly demonstrates that decentralized leadership, field experience, adaptability, and collaboration can allow nonprofit volunteers to complement formal response structures even under resource constraints (Islam et al., 2026). Research distinguishing formal and spontaneous volunteers suggests that organized volunteering is more strongly embedded in collaborative values and social capital, whereas spontaneous volunteering may be driven more by prosocial values, emotions, and immediate situational needs (Peña-Garay et al., 2025). Case evidence from the Student Volunteer Army after the Canterbury earthquakes further indicates that apparently spontaneous mobilization can depend on pre-existing networks of support and organizational conditions that precede the disaster itself (Nissen et al., 2021). Evidence from the 2021 German floods further shows that spontaneous volunteers can generate substantial response capacity, but their effectiveness and satisfaction improve when organizations provide safety structures, coordination, mutual respect, and workable communication arrangements (Bier et al., 2025). These distinctions imply a governance challenge: humanitarian organizations must not merely recruit willing citizens; they must build credible institutional pathways that translate willingness into safe, coordinated, inclusive, and sustained action (Shaw & Scully, 2024).

### 1.1.2. Awareness, Information, and Disaster Preparedness

Information is a necessary but insufficient component of preparedness because knowledge alone does not reliably produce protective behavior (Abunyewah et al., 2020). The information-deficit model assumes that relevant knowledge can improve perceptions and behavior, but disaster research shows that one-way dissemination alone rarely produces durable preparedness (Abunyewah et al., 2020). A systematic review of community engagement concluded that preparedness initiatives are generally stronger when information is embedded in direct interaction and locally meaningful participation rather than mass communication alone (Ryan et al., 2020). Recent research on public willingness to prepare similarly emphasizes practical risk information, trustworthy sources, repeated updates, community responsibility, and feasible action guidance rather than information volume alone (Swan-Keig et al., 2024). The same principle appears in crisis-communication research, where timeliness, clarity, transparency, and accessible channels are treated as prerequisites for credible safety communication (Sacyaten, 2025). Digital channels can expand reach, but they can also reproduce misinformation, distrust, and digital-literacy barriers when technology is treated as a substitute for communication capacity (Yamah & Folorunsho, 2026). Serbian evidence similarly shows that demographic and socioeconomic conditions shape disaster-risk communication and public awareness, reinforcing the need for segmented rather than generic communication strategies (Cvetković et al., 2021).

A culture of preparedness develops more readily when risk-reduction practices are embedded in everyday routines, values, and perceived self-efficacy (Appleby-Arnold et al., 2021a). Meta-analytic evidence across 167 independent samples and more than 110,000 participants identifies efficacy beliefs and social norms as especially consistent correlates of public emergency preparedness, while information sources also matter but with substantial between-study heterogeneity (Skipor & Bergquist, 2026). After the 2020 Oregon wildfires, greater information seeking, use of formal information sources, informal discussion, and perceived peer action were associated with preparedness and community helping behavior (Siddiqi et al., 2023). A systematic review likewise identifies efficacy beliefs, perceived benefits, risk appraisal, formal support, and community resilience as recurrent psychological and social correlates of household preparedness (Ni et al., 2025). Community social capital can also shape preparedness, although its effects may differ across social groups and preparedness behaviors (An et al., 2020). Cisternas et al. showed that risk awareness, risk perception, and trust should not be treated as interchangeable constructs because they operate through different pathways to preparedness intentions (Cisternas et al., 2023). In the humanitarian setting, awareness should therefore be conceptualized as actionable organizational knowledge - knowledge of roles, assistance functions, participation opportunities, local contact channels, and expected citizen behavior - rather than simple exposure to institutional messages (Swan-Keig et al., 2024). Evidence on disaster-resilient organizational systems similarly suggests that awareness and adoption can diverge when enabling conditions, infrastructure, or organizational capacity are weak (Jumare & Dada, 2025).

### 1.1.3. Trust, Perceived Effectiveness, and Organizational Legitimacy

Trust is central to disaster communication and cooperation because citizens must often make consequential decisions under uncertainty, time pressure, and incomplete information (Paton, 2007). Yet disaster research often underdefines trust, with studies failing to distinguish confidence in competence, intentions, integrity, procedural fairness, or communication (Liu & Mehta, 2021). This conceptual imprecision matters because trust is not uniformly beneficial. It can strengthen preparedness and resilience in some settings while weakening them in others, depending on the object of trust, hazard type, institutional context, and cultural setting (Nicholas et al., 2026). Evidence from earthquake-affected communities shows that different forms of stakeholder trust relate differently to risk perception and preparedness behavior (Han et al., 2020). A systematic review of social trust in disaster relief identifies local-government performance, social media, social capital, and community participation as recurrent trust-building mechanisms, reinforcing the proposition that trust is

produced through observable institutional relationships rather than reputation alone (Khankeh et al., 2023). Research on risk communication likewise shows that technically legitimate institutions can lose public acceptance when communication is not culturally grounded, responsive, and transparent (Renner & Mayr-Veselinović, 2025). For disaster governance, trust is therefore better treated as an institutional relationship that must be earned and maintained through performance, communication, participation, and accountability (Milenković, 2025).

Empirical work supports a close relationship between trust and perceived preparedness efficacy, but also cautions against treating the two as identical (Zhang et al., 2022). Zhang et al. (2022), studying earthquake-affected households in China, found that government, emotional, and social trust were differently associated with perceived self-efficacy and response efficacy. Other earthquake research similarly shows that trust in government, communities, and outside helpers can have distinct and sometimes counterintuitive associations with preparedness behavior, underscoring the importance of specifying both the trust object and the behavioral outcome (Ao et al., 2022). Research on nonprofit beneficiaries in the United States suggests that citizens' evaluation of nonprofit responsiveness and service quality can mediate the relationship between risk awareness and prosocial behavior (Hwang et al., 2024). In emergency volunteering, trust shapes whether professionals are willing to integrate spontaneous citizens and which management strategy is used (Krogh & Lo, 2023a). Serbian resilience research also places institutional trust alongside social cohesion and local capacity as a determinant of how communities evaluate their ability to withstand and recover from disasters (Cvetković & Šišović, 2024). Taken together, these findings imply that trust may be behaviorally consequential when it is anchored in visible competence, procedural fairness, reliable communication, accountability, and demonstrated organizational usefulness (Paton, 2007). Analytically, measures of trust and perceived effectiveness must therefore be sufficiently discriminating to avoid collapsing distinct institutional judgments into a single generalized evaluation (Liu & Mehta, 2021).

### 1.1.4. Volunteering, Prosocial Behavior, and the Intention-Participation Gap

Volunteering research consistently shows that willingness is shaped by individual, organizational, and contextual factors (Ma et al., 2021). In northern China, willingness and actual emergency volunteering were associated with community attachment, responsibility, preparedness behavior, and institutional support, while qualitative evidence highlighted organizational barriers that can prevent willingness from becoming action (Shi et al., 2018). Among registered disaster volunteers in Beijing, organizational identification and selected organizational conditions were associated with preparedness participation (Ma et al., 2021). More recent evidence from the 2022 U.S. National Household Survey indicates that group belonging, self-efficacy, disaster experience, resource access, and the urban-rural context are associated with both household preparedness and disaster volunteering (Li, 2025). Volunteer-led response research further shows that community organizations can generate operational value when they possess training, decentralized leadership, collaborative capacity, and institutional pathways for coordination (Islam et al., 2026). Research on digitalized co-production adds that information and communication technologies can broaden opportunities for volunteer participation, but organizational structures remain necessary to convert digital engagement into usable response capacity (Alkusaibati & Pilemalm, 2023). Serbian evidence is consistent with this multilevel interpretation: attitudes toward assisting vulnerable people and volunteering vary across demographic and social characteristics, while organizational support and clear engagement opportunities remain necessary to translate willingness into action (Cvetković, Milašinović, & Lazić, 2018; Janković et al., 2025).

Social capital, prior experience, and personal values add another layer to disaster helping behavior, but their effects are not universal across populations or outcomes (An et al., 2020). Malinen et al. found that trust in authorities, expectations of reciprocity, and other-focused values were associated with intentions to volunteer informally in Finland (Malinen et al., 2026). A nationally representative Japanese panel study found that prior disaster experience and openness were robust correlates of post-disaster giving, while the effects of trust, cooperation, and reciprocity were more differentiated (Okubo & Noy, 2026). In a 2024 U.S. survey, disaster experience, gender, employment, age, income,

and other characteristics predicted selected preparedness outcomes, illustrating that demographic effects can be outcome-specific rather than general (Blackburn et al., 2025). Serbian studies similarly demonstrate that preparedness and helping behavior can vary with motivation, income, marital status, religiosity, gender, and education, but the direction and strength of these associations depend on the specific outcome measured (Cvetković, 2016b, 2016c, 2016d; Cvetković et al., 2017; Cvetković, Roder, Öcal, Tarolli, & Dragićević, 2018; Cvetković & Milojković, 2016). Taken together, the literature suggests that humanitarian engagement is best modeled as a relational process connecting information, efficacy, trust, organizational evaluation, prior experience, social position, and accessible opportunities for action rather than as a simple demographic propensity (Swan-Keig et al., 2024).

### 1.1.5. Research Gap, Questions, and Hypotheses

The literature provides substantial evidence on preparedness, trust, risk communication, civic participation, and disaster volunteering, but these domains are often studied separately or at the level of general governmental preparedness (Nicholas et al., 2026; Ryan et al., 2020). Recent all-of-society and resilience frameworks explicitly call for research that connects institutional capacity, communication, participation, social trust, and community-level action within the same analytical architecture (Clark et al., 2025). Less is known about how actionable awareness, trust, perceived organizational preparedness and efficiency, expectations of humanitarian roles, prior contact, disaster experience, and socio-demographic characteristics operate simultaneously around a specific humanitarian organization in Southeast Europe (Janković et al., 2025). This matters because organization-specific engagement is a distinct empirical problem: citizens may recognize the social value of humanitarian organizations while lacking practical knowledge of their roles, contact channels, training opportunities, or pathways into volunteering (Le Dé et al., 2024). The present study therefore addresses two research questions that integrate informational, organizational, experiential, and socio-demographic explanations of engagement (Blackburn et al., 2025). RQ1 asks what levels of awareness, trust, perceived preparedness/efficiency, perceived humanitarian contribution, expected role, and engagement readiness characterize surveyed adults in Serbia, reflecting the multidimensional treatment of preparedness and institutional evaluation recommended in recent literature (Ni et al., 2025). RQ2 asks which informational, experiential, organizational, and socio-demographic variables are independently associated with these outcomes and with stated interest in near-term Red Cross activities, consistent with multivariable approaches used to separate competing preparedness determinants (Li, 2025). By combining item-level description, scale validation, bivariate tests, group comparisons, robust multivariable models, and ordinal analysis, the study evaluates not only whether these constructs are related, but also which relationships remain after competing explanations are considered, an approach consistent with calls to move beyond single-factor explanations of preparedness and participation (Skipor & Bergquist, 2026).

Based on the theoretical framework and previous empirical evidence, five hypotheses were examined: H1, greater awareness is positively associated with trust in the Red Cross of Serbia; H2, greater awareness is positively associated with perceived preparedness and efficiency; H3, previous disaster experience and/or direct Red Cross contact are associated with greater trust and more favorable effectiveness evaluations; H4, greater trust is associated with greater readiness to volunteer and provide help; and H5, a more positive evaluation of the expected role of humanitarian organizations is associated with greater engagement readiness (Paton, 2007; Cisternas et al., 2023; Ma et al., 2021; Li, 2025). These hypotheses draw on prior evidence linking information, efficacy, institutional trust, experience, and organized volunteering to preparedness and participation (Ni et al., 2025; Han et al., 2020). Because the design is cross-sectional, we use the term predictor statistically, which does not imply causation and aligns with the interpretive limits of cross-sectional preparedness studies that estimate associations rather than temporal effects (Blackburn et al., 2025).Taken together, previous research indicates that disaster preparedness and humanitarian engagement are shaped by a combination of cultural context, preparedness practices, willingness to contribute to disaster relief, and institutional trust in organized volunteers (Appleby-Arnold et al., 2021b; Cvetković et al., 2020; Hu et al., 2021; Krogh & Lo, 2023b).

## 2. Methods

### *2.1. Study Design, Setting, and Participants*

We used a quantitative, non-experimental, cross-sectional survey design. Data were collected in Serbia using a Google Forms questionnaire distributed electronically through social media, e-mail, and relevant online communities. The timestamped raw dataset included responses collected between 1 June and 20 August 2026. The unit of analysis was the individual adult respondent.

Approximately 250 individuals were contacted and invited to participate in the survey; 155 completed the questionnaire, yielding an approximate response rate of 62.0%. All respondents confirmed that they were at least 18 years of age. The sample was based on non-probability voluntary participation and was geographically and socio-demographically unbalanced, with a marked concentration of younger, urban respondents and participants from the Belgrade region. Accordingly, the findings should be interpreted as descriptive of the surveyed sample rather than as population-representative estimates for Serbia's adult population.

### *2.2. Questionnaire and Measures*

The questionnaire contained 26 questions covering socio-demographic characteristics; disaster experience and receipt of humanitarian assistance; previous contact with the Red Cross of Serbia; general and item-based awareness; trust; perceived preparedness and efficiency; perceived humanitarian contribution; expected humanitarian roles; willingness to volunteer, train, help, donate, register, and follow recommendations; future participation interest; and general recommendations. The complete instrument is reproduced in Appendix A as an English translation of the Serbian original.

We measured awareness with five items (16.1-16.5). Trust comprised four items (17.1-17.4). Perceived preparedness/efficiency combined items 17.5-17.7 and 17.10. Humanitarian contribution used items 17.8-17.9. Expected humanitarian role comprised nine items (18.1-18.9). Engagement readiness was defined as the mean of items 20.1-20.6. Item 20.7 was excluded from the primary readiness score because it explicitly states that greater trust increases willingness to join or support a humanitarian organization; including it would mechanically inflate the trust-readiness relationship. Future activity interest was measured ordinally as No < Maybe < Yes.

### *2.3. Data Quality Control and Scale Construction*

The original dataset was retained unchanged, while data cleaning and derived-variable construction were performed during the analytical processing. We retained all 155 cases unless a specific analysis required complete values for the variables involved. Two respondents had values outside the declared 1-5 response range; we recoded 24 such cells as missing, while retaining all other valid responses from those individuals. The response 'cannot assess' in Question 17 and Question 25 was treated as missing for scale-based analyses. Direct Red Cross contact was conservatively derived from the multiple-response contact question: respondents were coded as having direct contact if they reported at least one concrete contact mode, even when they also selected the contradictory 'no direct contact' option. This yielded 98 respondents with direct contact and 57 without.

We calculated composite scores as means of valid items when prespecified completeness thresholds were met: at least four of five awareness items, three of four trust items, three of four preparedness/efficiency items, both humanitarian-contribution items, eight of nine expected-role items, and five of six readiness items. We did not overwrite raw data; we implemented all cleaning and derived variables analytically.

### *2.4. Statistical Analysis*

The analysis proceeded from description to multivariable modeling, followed by bivariate and subgroup sensitivity analyses. Descriptive statistics included frequencies, percentages, means, standard deviations, medians, interquartile ranges, skewness, and 95% confidence intervals. We evaluated internal consistency with Cronbach's alpha; we used one-component omega estimates and first-factor variance as supplementary construct diagnostics for scales with three or more items.

To examine the statistical influence of independent variables on continuous composite outcomes, we estimated multiple ordinary least-squares regressions with HC3 heteroskedasticity-robust standard errors. We modeled trust, perceived preparedness/efficiency, expected humanitarian role, humanitarian contribution, and engagement readiness as dependent variables. Core independent variables were awareness, personal disaster experience, direct Red Cross contact, gender, age group, education, and settlement urbanity. The readiness model additionally included trust and expected humanitarian role. We inspected variance-inflation factors for multicollinearity and used the Breusch-Pagan test as a heteroskedasticity diagnostic. Also, we estimated a reduced readiness model excluding expected role to assess whether the trust coefficient was sensitive to conceptual overlap.

Pearson correlations were then used to quantify linear associations among the principal composite measures and future participation interest; Spearman rank correlations were calculated as an ordinal-robustness check. To make the role of socio-demographic and experiential independent variables explicit, we calculated point-biserial correlations for binary predictors (female gender, disaster experience, and direct Red Cross contact) against continuous scale outcomes, and Spearman rank correlations for ordered predictors (age group, education, and settlement urbanicity). For the ordinal future-interest outcome, we used Spearman correlations for all predictors. Binary group differences were additionally examined using Welch independent-samples t tests with Hedges' g effect sizes and, as a nonparametric sensitivity analysis, Mann-Whitney U tests with rank-biserial correlations. We examined multi-category group differences using Welch one-way ANOVA, Levene tests, Games-Howell post hoc comparisons where appropriate, and Kruskal-Wallis tests as nonparametric sensitivity analyses. Chi-square tests evaluated associations between future activity interest and categorical predictors, with Cramer's V as the effect-size measure and expected-cell diagnostics reported.

Finally, a cumulative logit ordinal regression modeled future activity interest (No < Maybe < Yes) using readiness, trust, awareness, direct contact, disaster experience, gender, age, education, and urbanity. Because the large set of secondary group and chi-square tests was exploratory, we calculated Holm-adjusted p-values within each analytical family in addition to raw p-values. We set statistical significance at $p < 0.05$, but emphasized effect sizes, confidence intervals, and multiplicity-adjusted results in interpretation. All statistical analyses and supplementary calculations were performed using IBM SPSS Statistics, Version 29.0 (IBM Corp., Armonk, NY, USA).

## 3. Results

### *3.1. Sample Characteristics and Data Quality*

All 155 adult responses were retained after item-level cleaning (Table 1). Women represented 63.9% of the sample, 73.5% of respondents were younger than 35 years, 56.1% lived in the Belgrade region, and 74.8% lived in a city or large city. Forty-three point nine percent reported personal experience of a disaster or major crisis in the previous decade, while only 3.2% reported that they or a household member had previously received humanitarian assistance. 98 respondents (63.2%) reported direct Red Cross contact.

**Table 1.** Socio-demographic, experiential, and contact characteristics of the study sample (N = 155).

| Variable | Category | n | % |
|---|---|---|---|
| Gender | Women | 99 | 63.9 |
| | Men | 56 | 36.1 |
| Age group | 18-24 years | 65 | 41.9 |
| | 25-34 years | 49 | 31.6 |
| | 35-44 years | 17 | 11.0 |
| | 45-54 years | 19 | 12.3 |
| | 55-64 years | 4 | 2.6 |
| | 65+ years | 1 | 0.6 |
| Education | Secondary school | 47 | 30.3 |
| | Vocational/higher school | 15 | 9.7 |
| | Bachelor's degree | 68 | 43.9 |
| | Master/Magister | 22 | 14.2 |
| | Doctoral studies | 3 | 1.9 |
| Employment | Employed | 85 | 54.8 |
| | Student | 40 | 25.8 |
| | Unemployed | 20 | 12.9 |
| | Self-employed | 6 | 3.9 |
| | Other | 3 | 1.9 |
| | Retired | 1 | 0.6 |
| Region | Belgrade | 87 | 56.1 |
| | Vojvodina | 30 | 19.4 |
| | Šumadija and Western Serbia | 29 | 18.7 |
| | Southern and Eastern Serbia | 9 | 5.8 |
| Settlement type | Large city | 59 | 38.1 |
| | City | 57 | 36.8 |
| | Small urban settlement | 22 | 14.2 |
| | Rural settlement | 17 | 11.0 |
| Disaster experience | Yes | 68 | 43.9 |
| | No | 83 | 53.5 |
| | Unsure | 4 | 2.6 |
| Direct Red Cross contact | Yes | 98 | 63.2 |
| | No | 57 | 36.8 |
| Humanitarian assistance received | Yes | 5 | 3.2 |
| | No | 139 | 89.7 |
| | Don't know/remember | 11 | 7.1 |

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### *3.2. Descriptive Statistics and Scale Reliability*

The composite measures showed high internal consistency and generally favorable evaluations of humanitarian functions. Awareness was closest to the scale midpoint, whereas humanitarian contribution and engagement readiness were comparatively high. Expected humanitarian role also received a high mean score. Very high reliability coefficients for several scales should not be interpreted as proof of unidimensionality; they may also indicate content overlap among closely related items (Table 2).

**Table 2.** Descriptive and reliability statistics for the principal composite measures.

| Scale | Items | n | M | SD | Md | IQR | 95% CI for M | α | ω |
|---|---|---|---|---|---|---|---|---|---|
| Awareness | 5 | 155 | 3.02 | 1.13 | 3.00 | 2.00-3.80 | [2.84, 3.19] | 0.921 | 0.942 |
| Trust | 4 | 145 | 3.49 | 1.17 | 3.50 | 3.00-4.50 | [3.29, 3.68] | 0.955 | 0.967 |
| Preparedness/efficiency | 4 | 137 | 3.45 | 1.20 | 3.50 | 2.50-4.50 | [3.25, 3.66] | 0.945 | 0.961 |
| Humanitarian contribution | 2 | 131 | 4.05 | 1.14 | 4.50 | 3.50-5.00 | [3.85, 4.25] | 0.934 | — |
| Expected humanitarian role | 9 | 154 | 3.82 | 1.03 | 4.00 | 3.00-4.78 | [3.66, 3.99] | 0.957 | 0.964 |
| Engagement readiness | 6 | 153 | 3.87 | 0.92 | 4.00 | 3.33-4.83 | [3.73, 4.02] | 0.908 | 0.930 |

*Note.* All composite measures range from 1 to 5. $\alpha$ = Cronbach's alpha; $\omega$ = one-component omega estimate. The two-item humanitarian-contribution scale is reported without omega.

At item level, the strongest endorsement concerned collecting and distributing humanitarian assistance (Item 18.3, M = 4.23), donating needed assistance in a major disaster (Item 20.4, M = 4.14), and the contribution of trained volunteers to response effectiveness (Item 17.9, M = 4.13). The lowest means occurred for the accessibility and clarity of Red Cross preparedness information (Item 16.5, M = 2.86), familiarity with first-aid and preparedness activities (Item 16.3, M = 2.90), and knowledge of how citizens can become involved (Item 16.2, M = 2.99). This item-level pattern reinforces the distinction between comparatively favorable evaluations of humanitarian roles and more moderate awareness of actionable steps.

**Table 3.** Item-level descriptive statistics for all Likert-type questionnaire items.

| Item | Statement | n | M | SD | Md | High endorsement (%) |
|---|---|---|---|---|---|---|
| 16.1 | I know what types of assistance the Red Cross of Serbia can provide during a disaster. | 155 | 3.01 | 1.24 | 3.00 | 34.8 |
| 16.2 | I know how citizens can become involved in Red Cross activities during a disaster. | 155 | 2.99 | 1.26 | 3.00 | 34.8 |
| 16.3 | I am familiar with Red Cross activities in first aid and population preparedness. | 155 | 2.90 | 1.30 | 3.00 | 32.9 |
| 16.4 | I can distinguish the role of the Red Cross from state protection-and-rescue services. | 155 | 3.30 | 1.41 | 4.00 | 51.0 |
| 16.5 | Information published by the Red Cross on preparedness and response is accessible and understandable. | 155 | 2.86 | 1.26 | 3.00 | 27.7 |
| 17.1 | I trust the Red Cross of Serbia as an organization that acts during disasters. | 140 | 3.36 | 1.28 | 3.00 | 45.7 |
| 17.2 | I believe the Red Cross would respond in a timely manner when the population needs assistance. | 144 | 3.50 | 1.29 | 4.00 | 56.2 |
| 17.3 | I believe the Red Cross distributes humanitarian assistance impartially and according to need. | 145 | 3.48 | 1.28 | 4.00 | 54.5 |
| 17.4 | I consider the information and recommendations provided by the Red Cross reliable. | 141 | 3.58 | 1.22 | 4.00 | 56.0 |
| 17.5 | I believe Red Cross volunteers are adequately trained for the tasks they perform. | 143 | 3.50 | 1.28 | 4.00 | 53.8 |
| 17.6 | I believe the Red Cross is organizationally prepared to act in different types of disasters. | 137 | 3.30 | 1.32 | 3.00 | 46.0 |
| 17.7 | I believe the Red Cross cooperates effectively with state authorities and protection-and-rescue services. | 134 | 3.38 | 1.31 | 3.00 | 49.3 |
| 17.8 | Humanitarian organizations can contribute significantly to faster assistance for the most vulnerable groups. | 136 | 3.98 | 1.20 | 4.00 | 69.1 |
| 17.9 | Trained volunteers increase the effectiveness of community disaster response. | 134 | 4.13 | 1.16 | 5.00 | 74.6 |
| 17.10 | Overall, I evaluate the Red Cross of Serbia's work in disaster preparedness and response positively. | 137 | 3.61 | 1.23 | 4.00 | 56.9 |
| 18.1 | Providing first aid. | 154 | 3.76 | 1.24 | 4.00 | 59.7 |

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|---|---|---|---|---|---|---|
| 18.2 | Supporting evacuation and temporary accommodation of affected people. | 154 | 3.91 | 1.15 | 4.00 | 68.8 |
| 18.3 | Collecting, organizing, and distributing humanitarian assistance. | 154 | 4.23 | 1.03 | 5.00 | 79.9 |
| 18.4 | Providing psychosocial support to affected persons. | 155 | 3.68 | 1.25 | 4.00 | 58.1 |
| 18.5 | Supporting children, older people, persons with disabilities, and other vulnerable groups. | 155 | 3.94 | 1.15 | 4.00 | 67.1 |
| 18.6 | Informing and educating citizens about risks and protective measures. | 155 | 3.68 | 1.28 | 4.00 | 58.7 |
| 18.7 | Organizing and coordinating volunteers. | 154 | 3.92 | 1.15 | 4.00 | 68.8 |
| 18.8 | Supporting families in tracing missing persons and restoring family links. | 155 | 3.56 | 1.28 | 4.00 | 54.2 |
| 18.9 | Supporting local communities in early recovery after a disaster. | 154 | 3.77 | 1.22 | 4.00 | 60.4 |
| 20.1 | I would be willing to attend free training in first aid or disaster preparedness. | 154 | 3.94 | 1.18 | 4.00 | 66.9 |
| 20.2 | I would be willing to volunteer in Red Cross activities if I were adequately trained. | 154 | 3.53 | 1.26 | 4.00 | 52.6 |
| 20.3 | I would be willing to assist affected people in my local community following competent-service instructions. | 154 | 4.05 | 0.97 | 4.00 | 72.1 |
| 20.4 | I would be willing to donate money, food, clothing, or other needed assistance in a major disaster. | 153 | 4.14 | 1.08 | 4.00 | 77.8 |
| 20.5 | I would be willing to register as a Red Cross volunteer for crisis-related activities. | 154 | 3.58 | 1.18 | 4.00 | 52.6 |
| 20.6 | In a disaster, I would follow Red Cross recommendations and instructions within its mandate. | 153 | 3.99 | 0.99 | 4.00 | 70.6 |
| 20.7 | Greater trust in a humanitarian organization increases my willingness to join or support it. | 154 | 4.01 | 1.06 | 4.00 | 72.1 |

Note. Items 16, 17, and 20 use 1 = strongly disagree to 5 = strongly agree; item 18 uses 1 = not important at all to 5 = extremely important. High endorsement denotes responses 4-5. Item 20.7 is shown descriptively but was excluded from the primary engagement-readiness composite to avoid criterion contamination.

General self-rated awareness was lower than the multi-item readiness measures: 36.1% rated themselves as poorly informed and 34.8% as moderately informed, while only 21.2% selected well or very well informed. Nevertheless, 62.6% knew where their competent local Red Cross organization was located. Social media was the most frequently reported primary information source (28.4%), followed by internet portals (16.1%) and official organizational websites/accounts (15.5%).

### *3.3. Multivariable Associations of Independent Variables with Key Outcomes*

We used HC3-robust regression models to estimate the independent association of awareness, experience, contact, and socio-demographic variables with key outcomes. Awareness was the dominant predictor across the organizational-evaluation outcomes. In the trust model, awareness showed beta = 0.543 ($p < 0.001$), and urbanity had a smaller positive coefficient (beta = 0.165, $p = 0.042$). The model explained 31.5% of the variance in trust. For perceived preparedness/efficiency, awareness again showed the largest coefficient (beta = 0.580, $p < 0.001$), and the model explained 36.2% of the variance; the remaining predictors did not reach $p < 0.05$.

Expected humanitarian role was independently associated with awareness (beta = 0.545, $p < 0.001$) and personal disaster experience (beta = 0.196, $p = 0.005$), explaining 32.1% of variance. For the two-item humanitarian-contribution outcome, awareness was positive (beta = 0.523, $p < 0.001$), while the female indicator was modestly negative (beta = -0.172, $p = 0.035$); interpret this secondary result cautiously because the outcome contains only two highly correlated items.

The full engagement-readiness model explained 45.9% of variance. Expected humanitarian role (beta = 0.346, $p = 0.002$) and awareness (beta = 0.318, $p < 0.001$) were the only independent predictors below $p < 0.05$. Trust was not independently significant in the full model (beta = 0.056, $p = 0.578$).

However, in the reduced model without expected humanitarian role, trust remained significant (beta = 0.253, p = 0.005) alongside awareness (beta = 0.391, p < 0.001), and the model explained 40.1% of the variance. This attenuation indicates substantial shared explanatory variance between trust and broader evaluations of humanitarian role.

**Table 4.** HC3-robust multiple linear regression models for key dependent variables.

| Outcome | Predictor | B | SE HC3 | β | 95% CI for B | p | VIF |
|---|---|---|---|---|---|---|---|
| Trust | Awareness | 0.564 | 0.079 | 0.543 | [0.409, 0.718] | < 0.001 | 1.10 |
| | Disaster experience | 0.267 | 0.165 | 0.115 | [−0.056, 0.590] | 0.105 | 1.05 |
| | Direct Red Cross contact | −0.109 | 0.189 | −0.045 | [−0.480, 0.263] | 0.566 | 1.15 |
| | Female | 0.063 | 0.180 | 0.026 | [−0.289, 0.415] | 0.725 | 1.05 |
| | Age group | 0.025 | 0.086 | 0.024 | [−0.144, 0.194] | 0.771 | 1.04 |
| | Education | 0.045 | 0.078 | 0.043 | [−0.109, 0.198] | 0.568 | 1.05 |
| | Urbanity | 0.191 | 0.094 | 0.165 | [0.007, 0.375] | 0.042 | 1.03 |
| *Model: N=141; $R^2$=0.315; adj. $R^2$=0.279* | | | | | | | |
| Preparedness/efficiency | Awareness | 0.613 | 0.078 | 0.580 | [0.460, 0.765] | < 0.001 | 1.13 |
| | Disaster experience | 0.270 | 0.167 | 0.113 | [−0.058, 0.597] | 0.107 | 1.04 |
| | Direct Red Cross contact | −0.319 | 0.182 | −0.129 | [−0.676, 0.037] | 0.079 | 1.15 |
| | Female | 0.333 | 0.189 | 0.134 | [−0.038, 0.704] | 0.078 | 1.04 |
| | Age group | 0.052 | 0.091 | 0.049 | [−0.127, 0.231] | 0.569 | 1.03 |
| | Education | 0.122 | 0.079 | 0.113 | [−0.033, 0.276] | 0.122 | 1.05 |
| | Urbanity | 0.153 | 0.091 | 0.128 | [−0.025, 0.331] | 0.092 | 1.02 |
| *Model: N=133; $R^2$=0.362; adj. $R^2$=0.326* | | | | | | | |
| Expected humanitarian role | Awareness | 0.503 | 0.069 | 0.545 | [0.369, 0.637] | < 0.001 | 1.10 |
| | Disaster experience | 0.407 | 0.144 | 0.196 | [0.125, 0.688] | 0.005 | 1.05 |
| | Direct Red Cross contact | −0.185 | 0.161 | −0.086 | [−0.501, 0.131] | 0.252 | 1.13 |
| | Female | 0.078 | 0.147 | 0.036 | [−0.211, 0.367] | 0.598 | 1.05 |
| | Age group | −0.010 | 0.057 | −0.011 | [−0.122, 0.102] | 0.858 | 1.05 |
| | Education | 0.055 | 0.063 | 0.060 | [−0.069, 0.179] | 0.386 | 1.04 |
| | Urbanity | 0.129 | 0.077 | 0.124 | [−0.021, 0.280] | 0.092 | 1.02 |
| *Model: N=150; $R^2$=0.321; adj. $R^2$=0.288* | | | | | | | |
| Humanitarian contribution | Awareness | 0.525 | 0.077 | 0.523 | [0.375, 0.675] | < 0.001 | 1.11 |
| | Disaster experience | 0.233 | 0.181 | 0.101 | [−0.121, 0.587] | 0.197 | 1.04 |
| | Direct Red Cross contact | −0.249 | 0.199 | −0.105 | [−0.639, 0.140] | 0.210 | 1.15 |
| | Female | −0.413 | 0.196 | −0.172 | [−0.796, −0.029] | 0.035 | 1.06 |
| | Age group | 0.042 | 0.075 | 0.042 | [−0.104, 0.189] | 0.570 | 1.02 |
| | Education | −0.077 | 0.075 | −0.075 | [−0.224, 0.071] | 0.309 | 1.02 |
| | Urbanity | 0.183 | 0.096 | 0.159 | [−0.005, 0.371] | 0.057 | 1.02 |
| *Model: N=127; $R^2$=0.305; adj. $R^2$=0.264* | | | | | | | |

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| | Trust | 0.045 | 0.081 | 0.056 | [−0.114, 0.205] | 0.577 | 2.16 |
| | Expected humanitarian role | 0.315 | 0.101 | 0.346 | [0.118, 0.512] | 0.002 | 2.09 |
| | Awareness | 0.270 | 0.069 | 0.318 | [0.134, 0.406] | < 0.001 | 1.63 |
| Engagement readiness | Disaster experience | 0.136 | 0.131 | 0.072 | [−0.121, 0.393] | 0.301 | 1.10 |
| | Direct Red Cross contact | 0.225 | 0.142 | 0.115 | [−0.054, 0.504] | 0.114 | 1.14 |
| | Female | 0.110 | 0.133 | 0.056 | [−0.152, 0.371] | 0.411 | 1.06 |
| | Age group | 0.012 | 0.049 | 0.015 | [−0.083, 0.108] | 0.800 | 1.04 |
| | Education | −0.004 | 0.050 | −0.005 | [−0.102, 0.094] | 0.938 | 1.05 |
| | Urbanity | 0.101 | 0.068 | 0.108 | [−0.033, 0.235] | 0.139 | 1.07 |
| *Model: N=140; $R^2$=0.459; adj. $R^2$=0.421* | | | | | | | |

*Note.* Continuous/ordered predictors were entered in their original units. Binary indicators: disaster experience 1 = yes, direct contact 1 = yes, female 1 = woman. The readiness model additionally includes trust and expected humanitarian role. Coefficients are associational, not causal.

### *3.4. Pearson Correlations and Spearman Robustness Checks*

Pearson correlations confirmed a coherent network of positive associations among awareness, organizational evaluations, and engagement. Awareness correlated with trust (r = 0.517), preparedness/efficiency (r = 0.525), expected role (r = 0.494), and readiness (r = 0.518), all p < 0.001. Trust and preparedness/efficiency were extremely strongly related (r = 0.884, p < 0.001), indicating substantial overlap between the constructs. Expected role and readiness were moderately related (r = 0.544, p < 0.001). Readiness had the strongest association with the ordinal future-interest measure (r = 0.478, p < 0.001). Spearman correlations produced the same substantive pattern, including rho = 0.500 for awareness-trust, rho = 0.527 for awareness-preparedness/efficiency, rho = 0.504 for expected role-readiness, and rho = 0.497 for readiness-future interest.

**Table 5.** Pearson correlations among principal constructs and future activity interest.

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Awareness | 3.02 | 1.13 | 1.000 | | | | | | |
| 2. Trust | 3.49 | 1.17 | 0.517*** | 1.000 | | | | | |
| 3. Preparedness/efficiency | 3.45 | 1.20 | 0.525*** | 0.884*** | 1.000 | | | | |
| 4. Humanitarian contribution | 4.05 | 1.14 | 0.492*** | 0.740*** | 0.758*** | 1.000 | | | |
| 5. Expected humanitarian role | 3.82 | 1.03 | 0.494*** | 0.697*** | 0.705*** | 0.662*** | 1.000 | | |
| 6. Engagement readiness | 3.87 | 0.92 | 0.518*** | 0.493*** | 0.492*** | 0.533*** | 0.544*** | 1.000 | |
| 7. Future activity interest | 1.19 | 0.70 | 0.180* | 0.188* | 0.204* | 0.165 | 0.154 | 0.478*** | 1.000 |

*Note.* Future activity interest was coded 0 = No, 1 = Maybe, 2 = Yes. Pairwise available observations were used. * p < 0.05; ** p < 0.01; *** p < 0.001. We calculated Spearman correlations as sensitivity analyses and describe them in the text.

### *3.5. Socio-Demographic and Experiential Bivariate Associations*

A dedicated bivariate analysis was added to make the relationships of gender, age, education, settlement urbanicity, disaster experience, and direct Red Cross contact with the study outcomes explicit (Table 6). Binary predictors were summarized with point-biserial correlations against continuous scale outcomes, whereas age, education, and urbanicity were treated as ordered variables and examined with Spearman rank correlations. For future activity interest, an ordinal variable, Spearman correlations were used throughout. The pattern was generally weak for stable socio-demographic characteristics: gender, age, and education were not significantly associated with the principal outcomes

at the 0.05 level. Urbanicity showed small positive associations with engagement readiness (rho = 0.176, p = 0.029) and future activity interest (rho = 0.205, p = 0.011). Personal disaster experience was associated with perceived Red Cross importance for community resilience (r_pb = 0.178, p = 0.037) and future interest (rho = 0.199, p = 0.015). Direct Red Cross contact showed the clearest bivariate pattern, correlating with awareness (r_pb = 0.241, p = 0.003), readiness (r_pb = 0.249, p = 0.002), and future interest (rho = 0.208, p = 0.009). These are unadjusted bivariate associations and should be interpreted alongside the multivariable models and multiplicity-adjusted group tests.

**Table 6.** Bivariate associations of socio-demographic and experiential independent variables with study outcomes.

| **Panel A. Awareness and organizational-evaluation outcomes** | | | | | |
|---|---|---|---|---|---|
| Predictor | Stat. | Awareness | Trust | Prep./eff. | HO contrib. |
| Female gender | r_pb | 0.017 (0.829) | 0.045 (0.588) | 0.157 (0.067) | -0.115 (0.190) |
| Age group | ρ | −0.078 (0.337) | 0.060 (0.474) | 0.070 (0.418) | 0.014 (0.876) |
| Education | ρ | −0.085 (0.292) | −0.027 (0.749) | 0.037 (0.665) | −0.118 (0.181) |
| Urbanicity | ρ | 0.032 (0.695) | 0.152 (0.069) | 0.159 (0.064) | 0.103 (0.240) |
| Disaster experience | r_pb | −0.046 (0.574) | 0.074 (0.383) | 0.056 (0.520) | 0.038 (0.672) |
| Direct Red Cross contact | r_pb | 0.241 (0.003) | 0.102 (0.220) | 0.028 (0.747) | 0.075 (0.396) |
| **Panel B. Expected role, engagement, resilience, and future interest** | | | | | |
| Predictor | Stat. | Expected role | Readiness | Resilience Q25 | Future interest Q21 |
| Female gender | r_pb | 0.084 (0.301) | 0.104 (0.199) | 0.093 (0.275) | 0.054 (0.503) |
| Age group | ρ | −0.068 (0.402) | −0.027 (0.737) | −0.102 (0.229) | −0.042 (0.607) |
| Education | ρ | −0.046 (0.575) | −0.047 (0.565) | 0.020 (0.818) | 0.110 (0.174) |
| Urbanicity | ρ | 0.081 (0.318) | 0.176 (0.029) | −0.003 (0.971) | 0.205 (0.011) |
| Disaster experience | r_pb | 0.153 (0.062) | 0.110 (0.180) | 0.178 (0.037) | 0.199 (0.015) |
| Direct Red Cross contact | r_pb | 0.059 (0.466) | 0.249 (0.002) | 0.036 (0.675) | 0.208 (0.009) |

Note. Cells report coefficient (two-tailed p-value). r_pb = point-biserial correlation; ρ = Spearman rank correlation. Female gender was coded 0 = male, 1 = female. Age group, education, and urbanicity were coded in ascending order; urbanicity increases from rural settlement to large city. Disaster experience excludes respondents who selected 'not sure'. Direct Red Cross contact was coded 0 = no, 1 = yes. Future interest was coded 0 = No, 1 = Maybe, 2 = Yes. Bold cells have raw p < 0.05; because these bivariate analyses are exploratory, substantive conclusions rely on convergence with adjusted group tests and multivariable models.

### *3.5. Group Differences: Welch t Tests, Welch ANOVA, and Nonparametric Sensitivity*

Secondary group comparisons explicitly tested socio-demographic and experiential independent variables against the composite outcomes (Table 7). Welch t tests covered gender, personal disaster experience, and direct Red Cross contact, while Welch ANOVA covered age group, education, employment status, region, and settlement type; Mann-Whitney and Kruskal-Wallis tests provided nonparametric sensitivity checks. The clearest and most reproducible binary-group pattern involved direct Red Cross contact. Respondents with direct contact reported higher awareness (M = 3.22 vs. 2.66; Welch t = 3.02, p = 0.003, Hedges g = 0.51) and greater engagement readiness (M = 4.05 vs. 3.57; t = 3.18, p = 0.002, g = 0.53). After Holm correction across the full family of 21 Welch t tests, the readiness difference remained significant (adjusted p = 0.040), while the awareness difference was borderline (adjusted p = 0.062). Mann-Whitney sensitivity analyses yielded the same pattern;

the readiness association remained significant after Holm correction (U = 3560, rank-biserial r = 0.321, adjusted p = 0.020).

Personal disaster experience was associated with a higher evaluation of the Red Cross contribution to community resilience in the unadjusted Welch t test (M = 3.70 vs. 3.33; t = 2.11, p = 0.036, g = 0.36), but this exploratory association did not survive familywise multiplicity correction. Gender did not produce significant differences across the primary composite outcomes.

**Table 7.** Welch independent-samples t tests across binary independent variables.

| Grouping variable | Outcome | Group 0 M (SD) | Group 1 M (SD) | Welch t | p | Holm p | Hedges g |
|---|---|---|---|---|---|---|---|
| Gender | Awareness | 2.99 (1.09) | 3.03 (1.16) | 0.22 | 0.826 | 1.000 | 0.04 |
| | Trust | 3.42 (1.18) | 3.53 (1.17) | 0.54 | 0.589 | 1.000 | 0.09 |
| | Preparedness/efficiency | 3.20 (1.21) | 3.59 (1.17) | 1.83 | 0.070 | 1.000 | 0.33 |
| | Humanitarian contribution | 4.23 (1.16) | 3.95 (1.13) | -1.31 | 0.195 | 1.000 | -0.24 |
| | Expected humanitarian role | 3.71 (0.99) | 3.89 (1.06) | 1.06 | 0.293 | 1.000 | 0.17 |
| | Engagement readiness | 3.75 (0.91) | 3.95 (0.93) | 1.30 | 0.197 | 1.000 | 0.22 |
| Disaster experience | Awareness | 3.06 (1.14) | 2.96 (1.13) | -0.56 | 0.574 | 1.000 | -0.09 |
| | Trust | 3.39 (1.22) | 3.56 (1.10) | 0.88 | 0.380 | 1.000 | 0.15 |
| | Preparedness/efficiency | 3.38 (1.18) | 3.52 (1.22) | 0.64 | 0.521 | 1.000 | 0.11 |
| | Humanitarian contribution | 4.00 (1.20) | 4.09 (1.11) | 0.43 | 0.670 | 1.000 | 0.08 |
| | Expected humanitarian role | 3.67 (1.07) | 3.99 (0.97) | 1.90 | 0.060 | 1.000 | 0.31 |
| | Engagement readiness | 3.78 (0.92) | 3.99 (0.96) | 1.34 | 0.182 | 1.000 | 0.22 |
| Direct Red Cross contact | Awareness | 2.66 (1.14) | 3.22 (1.08) | 3.02 | 0.003 | 0.062 | 0.51 |
| | Trust | 3.33 (1.21) | 3.58 (1.14) | 1.21 | 0.228 | 1.000 | 0.21 |
| | Preparedness/efficiency | 3.41 (1.13) | 3.48 (1.24) | 0.33 | 0.741 | 1.000 | 0.06 |
| | Humanitarian contribution | 3.94 (1.11) | 4.11 (1.16) | 0.86 | 0.391 | 1.000 | 0.15 |
| | Expected humanitarian role | 3.74 (1.02) | 3.87 (1.04) | 0.73 | 0.465 | 1.000 | 0.12 |
| | Engagement readiness | 3.57 (0.89) | 4.05 (0.90) | 3.18 | 0.002 | 0.040 | 0.53 |
| Gender | | 3.37 | 3.57 | 1.08 | 0.283 | 1.000 | 0.19 |
| Disaster experience | Community resilience importance | 3.33 | 3.70 | 2.11 | 0.036 | 0.693 | 0.36 |
| Direct Red Cross contact | | 3.45 | 3.53 | 0.44 | 0.660 | 1.000 | 0.07 |

*Note.* Group coding: Gender, Group 0 = men and Group 1 = women; Disaster experience, 0 = no and 1 = yes; Direct Red Cross contact, 0 = no and 1 = yes. The community-resilience outcome excludes 15 respondents who selected cannot assess. Holm p-values adjust the 21 tests in this family.

For multi-category predictors, Welch ANOVA identified unadjusted differences in awareness by age and employment status and in expected role and engagement readiness by settlement type (Table 8). Games-Howell comparisons showed that respondents from smaller urban settlements had lower expected-role scores than respondents from cities and large cities, and lower readiness than respondents from large cities. However, only the settlement-readiness pattern received convergent support after multiplicity correction in the nonparametric analysis: Kruskal-Wallis H = 16.05, p = 0.001, epsilon-squared = 0.088, Holm-adjusted p = 0.039. The expected-role settlement effect was smaller (H = 9.62, p = 0.022, epsilon-squared = 0.044) and did not survive Holm correction.

**Table 8.** Welch one-way ANOVA summary across multi-category independent variables.

| Grouping variable | Outcome | N | Welch F | df | p | Holm p | $\eta^2$ | Levene p |
|---|---|---|---|---|---|---|---|---|
| Age group | Awareness | 154 | 2.89 | 4, 19.63 | 0.049 | 1.000 | 0.059 | 0.116 |
| | Trust | 144 | 0.06 | 4, 13.15 | 0.993 | 1.000 | 0.002 | 0.638 |
| | Preparedness/efficiency | 136 | 0.35 | 4, 12.75 | 0.841 | 1.000 | 0.011 | 0.528 |
| | Humanitarian contribution | 130 | 0.14 | 4, 13.10 | 0.967 | 1.000 | 0.004 | 0.964 |
| | Expected humanitarian role | 153 | 1.09 | 4, 18.99 | 0.389 | 1.000 | 0.030 | 0.018 |
| | Engagement readiness | 152 | 0.18 | 4, 19.51 | 0.944 | 1.000 | 0.005 | 0.059 |
| Education | Awareness | 155 | 0.34 | 4, 13.58 | 0.847 | 1.000 | 0.011 | 0.880 |
| | Trust | 145 | 0.12 | 4, 13.24 | 0.973 | 1.000 | 0.004 | 0.612 |
| | Preparedness/efficiency | 137 | 0.29 | 4, 7.24 | 0.874 | 1.000 | 0.015 | 0.958 |
| | Humanitarian contribution | 131 | — | — | — | — | 0.012 | 0.709 |
| | Expected humanitarian role | 154 | 0.19 | 4, 14.36 | 0.940 | 1.000 | 0.005 | 0.578 |
| | Engagement readiness | 153 | 2.42 | 4, 22.17 | 0.079 | 1.000 | 0.006 | 0.139 |
| Employment status | Awareness | 154 | 3.42 | 4, 11.57 | 0.045 | 1.000 | 0.101 | 0.177 |
| | Trust | 144 | 3.22 | 4, 11.26 | 0.055 | 1.000 | 0.059 | 0.590 |
| | Preparedness/efficiency | 136 | 1.04 | 4, 6.57 | 0.452 | 1.000 | 0.021 | 0.814 |
| | Humanitarian contribution | 130 | 2.70 | 4, 11.07 | 0.086 | 1.000 | 0.072 | 0.034 |
| | Expected humanitarian role | 153 | 1.30 | 4, 11.28 | 0.328 | 1.000 | 0.029 | 0.558 |
| | Engagement readiness | 152 | 2.56 | 4, 11.65 | 0.094 | 1.000 | 0.064 | 0.048 |
| Region | Awareness | 155 | 1.03 | 3, 31.69 | 0.393 | 1.000 | 0.020 | 0.842 |
| | Trust | 145 | 2.39 | 3, 27.21 | 0.091 | 1.000 | 0.056 | 0.658 |
| | Preparedness/efficiency | 137 | 2.62 | 3, 24.68 | 0.073 | 1.000 | 0.057 | 0.653 |
| | Humanitarian contribution | 131 | 1.04 | 3, 20.17 | 0.396 | 1.000 | 0.028 | 0.032 |
| | Expected humanitarian role | 154 | 0.63 | 3, 30.42 | 0.602 | 1.000 | 0.016 | 0.289 |
| | Engagement readiness | 153 | 0.39 | 3, 30.58 | 0.764 | 1.000 | 0.011 | 0.048 |
| Settlement type | Awareness | 155 | 0.80 | 3, 49.00 | 0.500 | 1.000 | 0.017 | 0.082 |
| | Trust | 145 | 2.47 | 3, 45.66 | 0.073 | 1.000 | 0.051 | 0.009 |
| | Preparedness/efficiency | 137 | 2.42 | 3, 45.02 | 0.078 | 1.000 | 0.046 | 0.022 |
| | Humanitarian contribution | 131 | 1.21 | 3, 41.33 | 0.320 | 1.000 | 0.041 | 0.013 |
| | Expected humanitarian role | 154 | 3.18 | 3, 47.86 | 0.032 | 1.000 | 0.063 | 0.327 |
| | Engagement readiness | 153 | 5.12 | 3, 47.49 | 0.004 | 0.132 | 0.091 | 0.388 |
| Age group | Community resilience importance | 139 | 2.16 | 4, 17.72 | 0.115 | 1.000 | 0.082 | 0.974 |
| Education | | 140 | 0.51 | 4, 13.25 | 0.730 | 1.000 | 0.016 | 0.958 |
| Employment status | | 139 | 0.36 | 4, 10.39 | 0.830 | 1.000 | 0.013 | 0.919 |
| Region | | 140 | 1.34 | 3, 29.75 | 0.281 | 1.000 | 0.019 | 0.463 |
| Settlement type | | 140 | 0.29 | 3, 48.48 | 0.835 | 1.000 | 0.007 | 0.969 |

Note. Categories with only one observation were omitted from Welch ANOVA because a within-group variance cannot be estimated. $\eta^2$ is the classical between-group effect-size estimate shown descriptively. Holm p-values adjust the 35 Welch ANOVA tests across the six composite outcomes plus the community-resilience item. An em dash (—) indicates that the Welch statistic was not estimable because the relevant grouping structure did not provide sufficient within-group variance for that outcome.

**Table 9.** Nonparametric robustness checks with unadjusted $p < 0.05$.

| Test | Grouping variable | Outcome | Statistic | p | Holm p | Effect size |
|---|---|---|---|---|---|---|
| Mann-Whitney | Disaster experience | Community resilience importance | U = 2808.5 | 0.027 | 0.516 | r_rb = 0.212 |
| Mann-Whitney | Direct Red Cross contact | Awareness | U = 3596.0 | 0.003 | 0.057 | r_rb = 0.288 |
| Mann-Whitney | Direct Red Cross contact | Engagement readiness | U = 3560.0 | < 0.001 | 0.020 | r_rb = 0.321 |
| Kruskal-Wallis | Employment status | Awareness | H = 16.35 | 0.006 | 0.201 | $\varepsilon^2 = 0.076$ |
| Kruskal-Wallis | Employment status | Humanitarian contribution | H = 11.50 | 0.042 | 1.000 | $\varepsilon^2 = 0.052$ |
| Kruskal-Wallis | Settlement type | Expected humanitarian role | H = 9.62 | 0.022 | 0.730 | $\varepsilon^2 = 0.044$ |
| Kruskal-Wallis | Settlement type | Engagement readiness | H = 16.05 | 0.001 | 0.039 | $\varepsilon^2 = 0.088$ |

*Note.* Only robustness tests with raw $p < 0.05$ are shown. Holm adjustment is within each nonparametric test family.

### *3.6. Chi-Square Associations with Future Activity Interest*

Chi-square analyses treated the three-category future-interest item as a categorical outcome. Direct Red Cross contact was associated with future interest, chi-square(2) = 6.87, p = 0.032, Cramer's V = 0.211. Self-rated awareness was also associated with interest, chi-square(8) = 22.01, p = 0.005, V = 0.266, although five of fifteen expected cells were below five, limiting the reliability of the asymptotic chi-square approximation. Knowing how to contact the Red Cross was associated with interest, chi-square(4) = 12.42, p = 0.014, V = 0.200. None of the chi-square associations remained below 0.05 after Holm adjustment across the full family of categorical tests, so we treat these findings as exploratory rather than confirmatory (Table 10).

**Table 10.** Chi-square tests of association with interest in a free Red Cross activity during the next 12 months.

| Predictor | N | $\chi^2$ | df | p | Holm p | Cramér V |
|---|---|---|---|---|---|---|
| Gender | 155 | 1.30 | 2 | 0.522 | 1.000 | 0.092 |
| Age group | 155 | 4.90 | 10 | 0.898 | 1.000 | 0.126 |
| Education | 155 | 4.33 | 8 | 0.827 | 1.000 | 0.118 |
| Employment status | 155 | 7.49 | 10 | 0.678 | 1.000 | 0.155 |
| Region | 155 | 1.81 | 6 | 0.936 | 1.000 | 0.076 |
| Settlement type | 155 | 8.14 | 6 | 0.228 | 1.000 | 0.162 |
| Disaster experience | 155 | 8.30 | 4 | 0.081 | 0.731 | 0.164 |
| Humanitarian aid received | 155 | 1.89 | 4 | 0.756 | 1.000 | 0.078 |
| Direct Red Cross contact | 155 | 6.87 | 2 | 0.032 | 0.322 | 0.211 |
| General self-rated awareness | 155 | 22.01 | 8 | 0.005 | 0.059 | 0.266 |
| Knows local Red Cross location | 155 | 8.26 | 4 | 0.082 | 0.731 | 0.163 |
| Knows how to contact Red Cross | 155 | 12.42 | 4 | 0.014 | 0.159 | 0.200 |

*Note.* Outcome categories: No, Maybe, Yes. Holm p-values adjust the 12 chi-square tests. Sparse expected cells are shown because they affect the reliability of the asymptotic chi-square test.

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### *3.7. Ordinal Logistic Regression of Future Activity Interest*

The cumulative logit model included 140 complete cases and was statistically significant overall, likelihood-ratio chi-square(9) = 50.83, $p < 0.001$, McFadden pseudo-$R^2 = 0.178$, AIC = 257.0. Engagement readiness was the clearest predictor: each one-point increase was associated with 3.40 times higher odds of being in a higher interest category (95% CI [2.04, 5.65], $p < 0.001$). Personal disaster experience was also positive but borderline (OR = 2.04, 95% CI [1.00, 4.15], $p = 0.049$). Trust, awareness, and direct contact were not independently significant once readiness and the other covariates were included, suggesting that the broader readiness construct captures the proximal disposition most closely linked to stated near-term interest in participation (Table 11).

**Table 11.** Ordinal logistic regression predicting higher future Red Cross activity interest.

| Predictor | B | SE | OR | 95% CI for OR | p |
|---|---|---|---|---|---|
| Engagement readiness | 1.223 | 0.260 | 3.40 | [2.04, 5.65] | < 0.001 |
| Trust | −0.062 | 0.183 | 0.94 | [0.66, 1.35] | 0.735 |
| Awareness | −0.138 | 0.216 | 0.87 | [0.57, 1.33] | 0.525 |
| Direct Red Cross contact | 0.252 | 0.378 | 1.29 | [0.61, 2.70] | 0.504 |
| Disaster experience | 0.713 | 0.362 | 2.04 | [1.00, 4.15] | 0.049 |
| Female | 0.073 | 0.363 | 1.08 | [0.53, 2.19] | 0.840 |
| Age group | −0.084 | 0.153 | 0.92 | [0.68, 1.24] | 0.582 |
| Education | 0.280 | 0.157 | 1.32 | [0.97, 1.80] | 0.075 |
| Urbanity | 0.317 | 0.181 | 1.37 | [0.96, 1.96] | 0.080 |

*Note.* Outcome order: No < Maybe < Yes. N = 140; LR $\chi^2(9) = 50.83$, $p < 0.001$; McFadden pseudo-$R^2 = 0.178$; AIC = 257.0.

### *3.8. Evaluation of Hypotheses*

H1 was supported. Awareness was positively related to trust in both Pearson/Spearman analyses and the HC3 regression model. H2 was supported: awareness was positively related to perceived preparedness/efficiency and remained its strongest independent predictor. H3 was not supported as originally formulated: direct contact and personal disaster experience did not independently predict trust or preparedness/efficiency, although contact was associated with awareness and readiness in secondary group comparisons, and disaster experience predicted expected humanitarian role. H4 was partially supported: trust correlated with readiness and remained significant in the reduced readiness regression, but its coefficient became non-significant after including expected humanitarian role. H5 was supported: expected humanitarian role correlated with readiness and remained a significant independent predictor in the full model.

## 4. Discussion

This study examined the citizen-humanitarian interface through descriptive, multivariable, correlational, group-comparison, categorical, and ordinal analyses. The central result is a pattern of convergence: actionable awareness and perceived humanitarian role were more consistently associated with engagement readiness than most socio-demographic characteristics, a pattern compatible with contemporary models that locate preparedness within efficacy, information, social expectations, and institutional relationships (Skipor & Bergquist, 2026; Clark et al., 2025). Awareness independently predicted trust, preparedness/efficiency, expected role, humanitarian contribution, and readiness, while expected role was the strongest independent correlate of readiness in the full model. Similar citizen-coproduction research shows that individual action is strengthened when motivation and capacity are linked to usable institutional opportunities, making organizational context theoretically

relevant to these coefficients (Li, 2025; Krogh & Lo, 2025). By contrast, gender, age, education, and settlement urbanity generally showed limited independent effects once informational and organizational perceptions were considered. Comparable Serbian resilience research shows that demographic and socioeconomic predictors do matter, but their effects vary across resilience dimensions and explain only part of the wider institutional and psychosocial structure of preparedness (Cvetković & Šišović, 2024; Cvetković et al., 2026). This convergence therefore strengthens the interpretation that the most salient differences in this sample concern how citizens understand and evaluate the organization rather than their demographic characteristics; because the data are cross-sectional, however, these are explanatory associations rather than causal pathways.

The descriptive pattern is equally important. Respondents reported only moderate awareness but relatively high readiness to train, help, donate, register, and follow Red Cross recommendations, a configuration consistent with research showing that prosocial willingness can coexist with incomplete organizational knowledge (Shi et al., 2018; Ma et al., 2021). More than four in five respondents selected either Yes or Maybe regarding a free Red Cross activity during the following 12 months, indicating substantial latent willingness. Volunteer research nevertheless shows that willingness frequently remains unrealized when organizational pathways, training, role clarity, or coordination mechanisms are weak (Shi et al., 2018; Le Dé et al., 2024). This combination therefore indicates an engagement reserve: prosocial motivation exists, but knowledge of concrete organizational roles, local contact routes, and participation pathways is less developed. Volunteer-led and Red Cross studies suggest that this reserve becomes operationally valuable when organizations provide structured training, credible coordination, and clearly defined roles rather than relying on spontaneous motivation alone (Islam et al., 2026; Janković et al., 2025). For humanitarian organizations, the practical problem is thus not simply how to create prosocial motivation, but how to convert diffuse willingness into safe, organized, inclusive, and sustained participation.

### *4.1. Awareness as a Cross-Cutting Predictor*

Awareness was the most consistent variable in the multivariable models. In the full model, its standardized coefficient was 0.543 for trust, 0.580 for preparedness/efficiency, 0.545 for expected humanitarian role, 0.523 for perceived humanitarian contribution, and 0.318 for readiness. The consistency in direction and magnitude across outcomes, along with convergent Pearson and Spearman results, makes a purely model-specific artifact less plausible and aligns with research that treats information as a cross-cutting input to preparedness when it is behaviorally relevant (Abunyewah et al., 2020; Skipor & Bergquist, 2026). Serbian risk-communication research likewise shows that demographic and socioeconomic conditions shape awareness, emphasizing that information is not distributed or interpreted uniformly across citizens (Cvetković et al., 2021; Cvetković & Milojković, 2016). Direct-contact comparisons also showed that respondents who had interacted with the Red Cross were more informed, consistent with the idea that institutional contact can produce actionable rather than merely symbolic knowledge (Krogh & Lo, 2025). The results therefore support treating organizational awareness as a substantive explanatory construct rather than a background descriptive variable. At the same time, awareness should not be interpreted as message exposure; the items capture practical knowledge about organizational roles, preparedness functions, participation opportunities, and channels of contact, a distinction also emphasized in studies of awareness-adoption gaps in disaster-resilient organizational systems (Jumare & Dada, 2025).

This pattern aligns with evidence that preparedness information is most useful when it is actionable, participatory, timely, and connected to local context (Abunyewah et al., 2020; Ryan et al., 2020; Sacyaten, 2025). Digital communication can widen access, but evidence from Nigeria shows that infrastructure limitations, misinformation, low digital literacy, and distrust can simultaneously reduce its effectiveness, supporting blended rather than platform-only communication strategies (Yamah & Folorunsho, 2026). After the 2020 Oregon wildfires, information seeking and communication were linked to both preparedness and community helping, while meta-analytic evidence places efficacy beliefs and social norms among the most consistent correlates of preparedness (Siddiqi et al., 2023; Skipor & Bergquist, 2026). Cisternas et al. (2023) likewise distinguished risk awareness

from risk perception and trust, showing why informational variables should be modeled as theoretically separate constructs. The present study extends that logic to a humanitarian organization: knowing what the Red Cross does, how citizens can participate, and how its role differs from state protection-and-rescue services is closely associated with organizational evaluation and willingness to engage. A plausible mechanism is that practical awareness reduces role ambiguity and perceived participation costs, but reverse direction remains possible because favorable organizational attitudes can stimulate information seeking; the cross-sectional design cannot adjudicate between these processes.

### *4.2. Trust, Preparedness/Efficiency, and Shared Organizational Evaluation*

Trust was strongly related to preparedness/efficiency (r = 0.884), and both constructs showed high internal consistency. This overlap has theoretical and measurement implications because citizens may not clearly separate trusting an organization from believing it is prepared, timely, fair, coordinated, and effective. Zhang et al. (2022) demonstrated that different forms of trust can influence perceived preparedness efficacy, while Liu and Mehta (2021) cautioned that disaster research often uses trust without sufficiently precise conceptualization. Nicholas et al. (2026) further showed that trust-resilience relationships depend on context and the object of trust, and Khankeh et al. (2023) identified institutional performance, communication environments, social capital, and community participation as recurrent trust-building mechanisms. Serbian resilience research similarly positions institutional trust and local capacity as mutually reinforcing components of community resilience rather than isolated attitudes (Milenković, 2025; Cvetković & Šišović, 2024). Risk-communication research outside the disaster-response domain also illustrates the practical consequence of this relationship: technically legitimate institutions can encounter resistance when communication fails to establish social acceptance and credibility (Renner & Mayr-Veselinović, 2025). The present correlation should therefore be read both substantively and diagnostically - it reflects a tightly connected citizen evaluation of the organization, but it also signals that future instruments should separate competence-based trust from perceived operational effectiveness more explicitly.

The readiness models illustrate the consequence of this overlap. Trust was significant when expected humanitarian role was absent, but became non-significant once broader role evaluation entered the model. This attenuation is more informative than a binary significant/non-significant interpretation because it indicates shared explanatory variance among trust, usefulness, competence, role performance, fairness, and perceived public value. Hwang et al. (2024) similarly found that citizens' evaluation of nonprofit services can mediate the path from risk awareness to prosocial behavior. Governance research likewise suggests that trust is sustained when citizens can observe accountable performance and meaningful participation rather than when institutions rely on reputation alone (Dalangin, 2025; Milenković, 2025). The result is therefore compatible with a mechanism in which trust becomes behaviorally meaningful through observable organizational performance rather than operating as an isolated disposition. For practice, visible competence, transparent decision-making, and credible evidence of public value may be among the institutional processes through which generalized confidence is converted into willingness to cooperate (Khankeh et al., 2023; Renner & Mayr-Veselinović, 2025).

### *4.3. Direct Contact, Volunteering, and the Intention-Participation Gap*

Direct Red Cross contact produced moderate differences in awareness and readiness. The Welch effect sizes were g = 0.51 and g = 0.53, respectively, and the readiness difference remained significant after a strict Holm correction; nonparametric analysis confirmed the same result. These findings fit research showing that structured contact can reduce uncertainty about participation, reveal concrete organizational routines, and provide experiential evidence that volunteering is manageable and socially meaningful (Le Dé et al., 2024). Volunteer-led flood response in Bangladesh further shows that field experience, decentralized leadership, adaptability, and collaboration can transform volunteer

participation into operational capacity when organizations provide coordination structures (Islam et al., 2026). Research on the Red Cross of Serbia similarly underscores the importance of structured volunteer training and institutional integration for psychosocial support and wider emergency-management functions (Janković et al., 2025). Krogh and Lo (2023a, 2025) show that intermediary organizations create the trust infrastructure through which citizen participation becomes operationally usable, while Li (2025) identifies self-efficacy, group belonging, experience, and resource access as correlates of both preparedness and volunteering. Contact is therefore best interpreted as a potential mechanism of socialization and organizational learning, not merely as an exposure variable.

However, contact did not remain an independent predictor in the full readiness or ordinal-interest models. This attenuation matters because it distinguishes association from mechanism, a distinction repeatedly emphasized in observational preparedness research, where contact and experience can reflect prior motivation as well as produce new capacities (Blackburn et al., 2025; Li, 2025). Self-selection is plausible: people who are already prosocial, informed, confident, or interested may be more likely to donate blood, attend first-aid training, volunteer, or interact with the Red Cross. Conversely, contact may influence awareness or perceived role, which then absorbs part of its association in multivariable models; both processes can operate simultaneously. This distinction is central to the intention-participation gap because willingness is not behavior unless institutions provide feasible routes for converting intention into action (Shi et al., 2018; Ma et al., 2021). Serbian research has long shown that motivation and socio-demographic position shape preparedness and willingness to help, but such predispositions do not specify the institutional mechanisms through which participation actually occurs (Cvetković, 2016d; Cvetković, Milašinović, & Lazić, 2018). Volunteer-governance studies indicate that coordination, training, and trust-supporting structures can bridge this gap (Islam et al., 2026; Krogh & Lo, 2023a). Longitudinal or quasi-experimental designs are therefore needed to determine whether Red Cross contact causes engagement, follows prior motivation, or both.

### *4.4. Disaster Experience, Social Capital, and Prosocial Orientation*

Personal disaster experience was not a consistent predictor of trust, preparedness/efficiency, or readiness. It did, however, predict a more positive expected humanitarian role and showed an exploratory association with the perceived importance of the Red Cross for community resilience, suggesting that experience may alter perceived institutional relevance without uniformly changing every evaluative construct (Li, 2025; Okubo & Noy, 2026). In the ordinal model, it was associated with approximately twofold higher odds of greater future activity interest, but the confidence interval was wide, and the p-value was borderline. This mixed pattern is theoretically plausible because direct experience can increase hazard salience without uniformly producing confidence in organizations or organized volunteering (Blackburn et al., 2025; Li, 2025). Serbian flood and earthquake studies likewise show that preparedness is multidimensional and that knowledge, perceived capability, motivation, and demographic context can respond differently to hazard experience (Cvetković, 2016a; Cvetković et al., 2019). 'Disaster experience' should therefore not be treated as a general-purpose causal explanation; its consequences depend on event severity, perceived controllability, institutional performance, social support, and the specific behavioral outcome under study (Cvetković et al., 2026).

Recent evidence supports this conditional interpretation. Okubo and Noy (2026) found that disaster experience predicted post-disaster giving in Japan, while trust, cooperation, and reciprocity showed different relationships with helping. Li (2025), using a large U.S. national survey, found disaster experience associated with multiple preparedness activities and volunteering, whereas Blackburn et al. (2025) showed that prior disaster experience and socio-demographic characteristics predicted selected preparedness outcomes in different ways. Malinen et al. (2026) found that reciprocity expectations and other-focused values predicted informal volunteering intentions, and Peña-Garay et al. (2025) highlighted different value structures among formal and spontaneous volunteers. Serbian resilience research also indicates that social structure, social capital, social mechanisms, and institutional capacity interact rather than moving uniformly with prior hazard exposure (Cvetković

& Šišović, 2024; Cvetković et al., 2026). The Serbian results therefore do not contradict the broader literature; rather, they show that experience may increase perceived relevance or intention without exerting a uniform independent effect on all organizational evaluations.

### *4.5. Socio-Demographic and Settlement Differences*

The dedicated bivariate correlation table, t tests, and ANOVAs indicate that stable socio-demographic characteristics were generally weaker correlates than informational and organizational variables in this sample. Female gender, age group, and education showed no statistically significant bivariate correlations with the principal outcomes, whereas earlier Serbian studies found demographic differences for selected preparedness and awareness indicators (Cvetković, 2016b, 2016c; Cvetković et al., 2017; Cvetković, Roder, Öcal, Tarolli, & Dragićević, 2018; Cvetković & Milojković, 2016). This contrast underscores that demographic effects are construct- and context-specific rather than universal, as shown in international studies reporting heterogeneous demographic associations across preparedness outcomes (Blackburn et al., 2025; Malinen et al., 2026). Urbanicity was positively but weakly associated with readiness ($\varrho = 0.176$, $p = 0.029$) and future interest ($\varrho = 0.205$, $p = 0.011$), yet it was not independently significant in the full readiness regression, suggesting that the settlement gradient partly overlaps with awareness, contact, or organizational evaluation. Personal disaster experience was associated with the perceived importance of the Red Cross for community resilience ($r_{pb} = 0.178$, $p = 0.037$) and with future interest ($\varrho = 0.199$, $p = 0.015$), whereas direct Red Cross contact showed clearer bivariate relationships with awareness, readiness, and future interest. After multiplicity correction, gender, age, education, and most regional or employment differences were weak or unstable, supporting caution against demographic profiling from isolated p-values (Blackburn et al., 2025). The clearest multi-category pattern involved settlement type and readiness: respondents from smaller urban settlements reported lower readiness than those from large cities, and the corresponding Kruskal-Wallis test remained significant after Holm correction; this aligns with evidence that place and access to community resources can shape preparedness and volunteering opportunities (Li, 2025).

These findings should not be interpreted as evidence that demographics are unimportant. Rather, they show that demographic effects depend on the outcome, population, measurement, and institutional context. Earlier Serbian studies found that motivation, income, marital status, gender, education, and other characteristics can differentiate flood preparedness, awareness, and willingness to help, while risk-communication research identified income and gender as salient predictors of risk awareness (Cvetković, 2016b, 2016c, 2016d; Cvetković, Roder, Öcal, Tarolli, & Dragićević, 2018; Cvetković & Milojković, 2016; Cvetković et al., 2021). Broader Serbian community-resilience research similarly shows that age, education, employment status, and property ownership can predict different resilience dimensions rather than a single generalized readiness score (Cvetković & Šišović, 2024). International evidence is equally heterogeneous: Shi et al. (2018) and Ma et al. (2021) identified selected demographic differences in disaster volunteering, Malinen et al. (2026) found no demographic effects on volunteering intentions in Finland, and Blackburn et al. (2025) identified gender, age, employment, income, and disaster experience as predictors of particular U.S. preparedness outcomes. Against that background, the present null and weak effects are substantively informative: within this non-probability Serbian sample, modifiable informational and organizational variables account for more variation in the focal humanitarian-engagement outcomes than stable demographic characteristics. For policy, this shifts attention from demographic targeting alone toward mechanisms that organizations can plausibly modify - role clarity, communication, efficacy, access, inclusion, and participation design (Bukula & Mwageni, 2025).

### *4.6. Categorical Interest and the Proximal Role of Readiness*

The chi-square analyses indicated that direct contact, self-rated awareness, and knowledge of how to contact the Red Cross were associated with near-term activity interest before multiplici-

ty correction. These categorical results are directionally consistent with the broader informational pathway, which is supported by research linking actionable information and institutional accessibility to preparedness and participation (Sacyaten, 2025; Ryan et al., 2020). They should nevertheless be treated as exploratory because none remained significant after Holm correction and the self-rated-awareness table contained sparse expected cells. This caution matters because behavioral-intention research often finds that apparent group differences weaken after competing predictors or multiple-testing control are introduced (Blackburn et al., 2025).

The ordinal regression offers a more coherent explanation: once readiness and other variables were considered simultaneously, readiness dominated the model. A one-point increase corresponded to 3.40 times higher odds of moving to a higher interest category, supporting the interpretation that generalized readiness is a proximal correlate of specific participation intention. The distinction between broad readiness and a specific 12-month intention is conceptually useful because willingness across helping modalities is not equivalent to a concrete decision to participate (Shi et al., 2018). Research on emergency volunteering similarly separates willingness from actual participation and shows that organizational and contextual barriers can interrupt the transition between the two (Shi et al., 2018; Ma et al., 2021). The readiness scale captures willingness across several forms of helping, whereas the ordinal item captures a nearer-term behavioral intention. The strong association between them supports a staged mobilization model in which generalized willingness becomes practically relevant when organizations provide credible, accessible, and safe opportunities for action (Le Dé et al., 2024; Islam et al., 2026).

### *4.7. Theoretical Implications*

The results support an integrated citizen-humanitarian engagement framework with at least four analytically distinct layers: actionable awareness, organizational evaluation, generalized readiness, and near-term participation intention. The empirical pattern is consistent with a pathway in which practical knowledge of humanitarian roles is associated with trust and judgments of preparedness, effectiveness, and usefulness; these evaluations coexist with willingness to train, help, donate, register, and follow guidance; generalized readiness is then strongly associated with a nearer-term intention to participate. This ordering is theoretically coherent with all-of-society and co-production approaches, which conceptualize resilience as a product of connected institutional and citizen capacities rather than isolated household behavior (Clark et al., 2025; Milenković, 2025). Differential-risk frameworks further caution that these capacities are unevenly distributed, so resilience-building must account for differences in exposure, resources, accessibility, and social position rather than assume a homogeneous public (Biñas & Cañete, 2025). The framework also extends simple information-deficit logic by locating information inside a relational institutional system in which efficacy, social expectations, trust, and organizational accessibility jointly shape engagement (Skipor & Bergquist, 2026). The cross-sectional design, however, means that this framework should be tested as a directional hypothesis rather than presented as an established causal sequence.

A second theoretical implication is that humanitarian engagement should be modeled as more than volunteering. Citizens can train, donate, assist affected people, register as volunteers, follow guidance, communicate information, or participate in preparedness activities, and each mode can draw on overlapping but non-identical motives and constraints (Malinen et al., 2026; Okubo & Noy, 2026). Community-centered financing and governance scholarship similarly argues that resilience improves when local actors possess meaningful decision space rather than symbolic participation alone (Cañete et al., 2025). The very high internal consistencies observed here demonstrate measurement coherence but also raise the possibility of item redundancy and overly broad latent constructs. Future measurement models should therefore distinguish behavioral readiness dimensions while retaining a higher-order engagement construct, and should separate competence-based trust, benevolence/integrity, preparedness efficacy, and perceived public value. Such differentiation would allow researchers to test whether awareness operates primarily through efficacy, trust, role legitimacy, reduced participation costs, or perceived institutional responsiveness rather than treating positive organizational evaluation as a single undifferentiated factor (Nicholas et al., 2026; Hwang et al., 2024).

### *4.8. Practical and Policy Implications*

For the Red Cross of Serbia and comparable organizations, the most actionable implication is to make participation pathways concrete. Communication should explain what the organization does before, during, and after disasters; how responsibilities differ from those of state services; how citizens can contact the local branch; what training is available; what tasks volunteers may perform; how safety is managed; and how donations and assistance are governed. Effective preparedness communication must do more than increase exposure: it should strengthen efficacy, set credible social expectations, reduce practical barriers to action, and provide timely, comprehensible safety information (Skipor & Bergquist, 2026; Sacyaten, 2025). Digital channels should integrate with trusted community and traditional channels because technology can expand reach, while misinformation, low digital literacy, and distrust can erode communication effectiveness (Yamah & Folorunsho, 2026). Serbian risk-communication evidence likewise supports differentiated communication strategies rather than one-size-fits-all messaging (Cvetković et al., 2021). Visibility without operational information is therefore unlikely to close the awareness-action gap.

Volunteer recruitment should also reflect respondents' reported motives. The strongest stated incentives were the opportunity to help affected people directly, high-quality training with clearly defined tasks, trust in the coordinating organization, flexible engagement, and personal safety. These priorities are consistent with research on volunteer management, citizen co-production, collaborative emergency response, and volunteer-led flood operations (Enjolras et al., 2024; Le Dé et al., 2024; Li, 2025; Shi et al., 2018; Islam et al., 2026). Evidence from the Red Cross of Serbia further indicates that structured volunteer education and internal support mechanisms are important for expanding psychosocial and emergency-support functions (Janković et al., 2025). The implication is not simply to advertise volunteering more intensively, but to design participation as a credible institutional offer: clear tasks, realistic training, safety protections, flexible entry points, inclusive access, and visible coordination. Institutional-preparedness research similarly shows that training deficits, inadequate funding, and weak organizational systems can undermine readiness even when formal structures exist (Dada et al., 2025; Dalangin, 2025). Locally adapted outreach may be particularly important in smaller urban settlements, where readiness was lower in this sample.

Transparency is another practical priority. The most frequently selected factor for increasing trust was greater transparency in organizational work and use of donations, while the most common information deficit was insufficient visibility of humanitarian activities. These responses suggest that accountability communication should not be separated from preparedness communication. Systematic-review evidence indicates that trust in disaster relief is shaped by institutional performance, communication environments, social capital, and community participation (Khankeh et al., 2023). Risk-communication research similarly shows that responsible, culturally grounded communication is integral to social acceptance rather than a peripheral public-relations activity (Renner & Mayr-Veselinović, 2025). Showing what was done, why it was done, how resources were used, and how citizens can verify results can therefore serve two functions simultaneously: accountability for past action and capacity-building for future cooperation. Grassroots-governance research emphasizes that participation becomes more credible when local institutions have clear roles and communities possess real opportunities to influence action (Salam et al., 2025; Cañete et al., 2025). Inclusive disaster governance also requires deliberately addressing barriers that exclude persons with disabilities and other groups from meaningful participation (Bukula & Mwageni, 2025). In an all-of-society model, trust is not merely an attitudinal outcome; it is part of the infrastructure that enables coordination between institutions and citizens (Clark et al., 2025).

### *4.9. Limitations and Potential Biases*

Several limitations constrain interpretation. First, the sample was non-probability based, relatively young, urban, and concentrated in Belgrade; estimates should therefore not be generalized to the Serbian population. Second, the cross-sectional design means regression coefficients describe

independent statistical associations rather than causal effects. Reverse direction and residual confounding remain plausible.

Third, the main constructs were self-reported in the same questionnaire, increasing the risk of common-method variance and social-desirability bias. The very strong trust-preparedness/efficiency correlation indicates limited discriminant validity and suggests that future instruments should more clearly separate ability-based trust, integrity/benevolence, operational preparedness, interorganizational coordination, and perceived response effectiveness. Fourth, some categories were sparse: only five respondents reported previous humanitarian assistance, the oldest age group included a single participant, and some employment categories were very small. These features reduce the stability of subgroup comparisons.

Fifth, the extensive secondary test battery increases the risk of false-positive findings. We therefore applied Holm corrections within analytical families, and several raw $p < 0.05$ group or chi-square findings did not remain significant. The article consequently emphasizes effect sizes, convergence across parametric and nonparametric procedures, and the the primary multivariable models.

Future research should prioritize designs that can separate selection, mediation, and causal change. A nationally structured probability or quota-based survey could estimate population distributions and test whether the measurement model is invariant across gender, age, education, region, and settlement type; previous Serbian studies demonstrate why such heterogeneity deserves explicit modeling rather than being treated only as statistical control (Cvetković & Šišović, 2024; Cvetković et al., 2026). Longitudinal panel research should measure awareness, trust, efficacy, and intention to participate before and after first-aid training, preparedness education, blood-donation contact, or volunteer recruitment. Quasi-experimental or field-experimental studies could compare generic institutional messaging with role-specific, locally actionable communication and measure actual behavioral outcomes such as training registration, volunteer enrollment, repeated participation, or donation behavior; communication research suggests that timeliness, clarity, channel choice, and cultural fit should be manipulated explicitly (Sacyaten, 2025; Renner & Mayr-Veselinović, 2025). Structural equation models could test whether awareness operates through efficacy, trust, or expected humanitarian role, while latent-profile or mixture approaches could identify distinct citizen-engagement segments. Cross-national replication in Southeast Europe would help determine which relationships are specific to the Red Cross of Serbia and which reflect broader regional patterns of civil-society participation in disaster governance (Clark et al., 2025).

## 5. Conclusions

This study examined public awareness, trust, organizational evaluation, disaster experience, direct Red Cross contact, and willingness to engage among 155 adult online respondents in Serbia. Across descriptive, regression, correlation, group-comparison, chi-square, nonparametric, and ordinal analyses, awareness emerged as the most consistent correlate of organizational evaluation, while awareness and expected humanitarian role were the strongest independent correlates of engagement readiness. Broad readiness, in turn, was strongly associated with near-term stated interest in Red Cross activities.

The study's main contribution is to show that citizen-humanitarian engagement is better explained by modifiable informational and organizational perceptions than by demographic characteristics alone. Trust remains important but overlaps substantially with judgments of preparedness, efficiency, and role performance. Direct contact appears associated with awareness and readiness, although the cross-sectional design cannot determine whether contact changes citizens or whether already motivated citizens seek contact.

For practice, the findings support clearer role communication, greater transparency and visibility, locally accessible contact information, high-quality training with defined tasks, and safe participation pathways that convert willingness into organized action. Because the sample is non-probability based and the design is cross-sectional, these priorities should be treated as evidence-informed organizational directions rather than demonstrated causal interventions. Future nationally structured

and longitudinal studies should test whether changes in awareness, contact, and organizational communication precede measurable changes in actual participation.

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**Informed Consent Statement**: Participants were informed about the purpose of the study; participation was voluntary and anonymous, and continued participation in the online questionnaire indicated informed consent.

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**Appendix A. Survey Questionnaire**

Dear participant, this anonymous questionnaire is being conducted for an undergraduate thesis. This study aims to examine citizens' awareness and trust; perceptions of the preparedness and effectiveness of the Red Cross of Serbia and other humanitarian organizations; expectations regarding different forms of assistance; and willingness to volunteer and provide other forms of support during disasters. Participation is voluntary and intended for persons aged 18 or older. No directly identifying information is collected. Results will be used solely for scientific research and reported in aggregate. Completion takes approximately 7-10 minutes. By continuing, you confirm that you have been informed about the purpose of the study and voluntarily consent to participate.

Instructions to participants

Please read each question carefully and mark the answer that best represents your opinion or experience by placing an X (☒) in the appropriate box. Unless otherwise indicated, please select one answer only. For questions allowing multiple responses, this is explicitly stated.

## A. BASIC RESPONDENT INFORMATION

1. Are you 18 years of age or older?

☐ Yes

☐ No

2. Gender

☐ Male

☐ Female

☐ Prefer not to say

3. Age group

☐ 18–24 years

☐ 25–34 years

☐ 35–44 years

☐ 45–54 years

☐ 55–64 years

☐ 65 years or older

4. Highest completed level of education

☐ Primary school or lower

☐ Secondary school

☐ Higher vocational studies

☐ Bachelor's degree

☐ Master's or Magister degree

☐ Doctoral studies

5. Employment status

☐ Employed

☐ Self-employed

☐ Student

☐ Unemployed

☐ Retired

☐ Other




6. Region of residence

☐ Belgrade

☐ Vojvodina

☐ Šumadija and Western Serbia

☐ Southern and Eastern Serbia

7. Settlement type

☐ Rural settlement

☐ Smaller urban settlement

☐ City

☐ Large city

## B. EXPERIENCE WITH DISASTERS AND HUMANITARIAN ORGANIZATIONS

8. During the last ten years, have you personally been affected by a disaster or major crisis situation?

☐ Yes

☐ No

☐ Unsure

9. If yes, which type(s) of event affected you?

*Select all that apply.*

☐ Flood

☐ Fire

☐ Earthquake

☐ Extreme weather event (storm, hail, heatwave, snow emergency, etc.)

☐ Epidemic or pandemic

☐ Technological accident

☐ Other event

☐ I was not affected

10. Have you or a member of your household ever received assistance from the Red Cross of Serbia or another humanitarian organization?

☐ Yes

☐ No

☐ Do not know/do not remember

11. Have you had any of the following forms of contact with the Red Cross of Serbia? *Select all that apply.*

☐ As an aid recipient

☐ As a volunteer

☐ As a blood donor

☐ As a donor

☐ Through first-aid training

☐ Through disaster-preparedness education or activity

☐ Through another Red Cross activity

☐ No direct contact

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## C. AWARENESS OF THE ROLE OF THE RED CROSS AND HUMANITARIAN ORGANIZATIONS

12. Overall, how would you rate your awareness of the role of the Red Cross of Serbia in disasters?

☐ 1 — Not informed at all

☐ 2 — Poorly informed

☐ 3 — Moderately informed

☐ 4 — Well informed

☐ 5 — Very well informed

13. Do you know where the Red Cross organization responsible for your place of residence is located?

☐ Yes

☐ No

☐ Unsure

14. Do you know how to contact the Red Cross if you need information, assistance, or a volunteering opportunity?

☐ Yes

☐ Partly

☐ No

15. What is your main source of information about Red Cross and humanitarian-organization activities?

*Select one answer.*

☐ Official websites or official accounts

☐ Television or radio

☐ Internet news portals

☐ Social media

☐ Local government or other institutions

☐ Family, friends, or acquaintances

☐ Personal contact with the organization

☐ Other

☐ I do not follow such information

16. Awareness Scale

Please indicate the extent to which you agree with each statement.

16.1. I know what types of assistance the Red Cross of Serbia can provide to the population during a disaster.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

16.2. I know how citizens can become involved in Red Cross activities during a disaster.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

16.3. I am familiar with Red Cross activities in first aid and population preparedness.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

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16.4. I can distinguish the role of the Red Cross from the role of state protection-and-rescue services.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

16.5. Information published by the Red Cross on disaster preparedness and response is accessible and understandable to me.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

## D. TRUST AND PERCEIVED PREPAREDNESS/EFFECTIVENESS

Please indicate the extent to which you agree with each statement. If you do not have sufficient information to make an assessment, select "Cannot assess."

17.1. I trust the Red Cross of Serbia as an organization that acts during disasters.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

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17.2. I believe that the Red Cross would respond in a timely manner when the population needs assistance.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.3. I believe that the Red Cross distributes humanitarian assistance impartially and according to need.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.4. I consider the information and recommendations provided by the Red Cross to citizens reliable.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.5. I believe Red Cross volunteers are adequately trained for the tasks they perform.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.6. I believe the Red Cross is organizationally prepared to act in different types of disasters.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

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17.7. I believe the Red Cross cooperates effectively with state authorities and protection-and-rescue services.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.8. Humanitarian organizations can make a significant contribution to faster assistance for the most vulnerable population groups.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.9. The presence of trained volunteers increases the effectiveness of community disaster response.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

17.10. Overall, I evaluate the work of the Red Cross of Serbia in disaster preparedness and response positively.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

☐ Cannot assess

## E. EXPECTED ROLE IN DISASTERS

How important do you consider the role of the Red Cross of Serbia and other humanitarian organizations in each of the following areas?

18.1. Providing first aid.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

18.2. Supporting evacuation and temporary accommodation of affected people.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

18.3. Collecting, organizing, and distributing humanitarian assistance.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

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18.4. Providing psychosocial support to affected persons.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

18.5. Supporting children, older people, persons with disabilities, and other vulnerable groups.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

18.6. Informing and educating citizens about risks and protective measures.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

18.7. Organizing and coordinating volunteers.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

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18.8. Supporting families in tracing missing persons and restoring family links.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

18.9. Supporting local communities in early recovery after a disaster.

☐ 1 — Not important at all

☐ 2 — Slightly important

☐ 3 — Moderately important

☐ 4 — Very important

☐ 5 — Extremely important

19. In a disaster, from whom would you first expect humanitarian support in addition to competent state services?

*Select one answer.*

☐ Red Cross of Serbia

☐ Other domestic humanitarian organizations

☐ International humanitarian organizations

☐ Local community

☐ Citizens and informal groups

☐ I would not expect humanitarian support

☐ Do not know

## F. WILLINGNESS TO VOLUNTEER AND PROVIDE ASSISTANCE

Please indicate the extent to which you agree with each statement.

20.1. I would be willing to attend free training in first aid or disaster preparedness.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

20.2. I would be willing to volunteer in Red Cross activities if I were adequately trained.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

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20.3. I would be willing to assist affected people in my local community in accordance with the instructions of competent services.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

20.4. I would be willing to donate money, food, clothing, or other needed assistance in a major disaster.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

20.5. I would be willing to register as a Red Cross volunteer for crisis-related activities.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

20.6. In a disaster, I would follow Red Cross recommendations and instructions in areas within its mandate.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

20.7. Greater trust in a humanitarian organization increases my willingness to join or support it.

☐ 1 — Strongly disagree

☐ 2 — Disagree

☐ 3 — Neither agree nor disagree

☐ 4 — Agree

☐ 5 — Strongly agree

21. Would you be interested in participating in a free Red Cross activity during the next 12 months, such as training, volunteering, an information campaign, or another activity?

☐ Yes

☐ Maybe

☐ No

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22. What would most encourage you to participate in disaster volunteering?

*Select up to three answers.*

☐ High-quality training and clearly defined tasks

☐ Personal safety during engagement

☐ Trust in the organization coordinating volunteers

☐ Opportunity to directly help affected people

☐ Recommendation by a friend or family member

☐ Recognition or certificate

☐ Flexible engagement time

☐ Better information about volunteering opportunities

☐ None of the above / I am not interested

## G. GENERAL EVALUATION AND RECOMMENDATIONS

23. What would most increase citizens' trust in the Red Cross of Serbia and other humanitarian organizations?

*Select one answer.*

☐ Greater transparency of work and use of donations

☐ Faster and more visible disaster response

☐ More public information on concrete results

☐ Greater presence in local communities

☐ More education and training for citizens

☐ Better cooperation with state authorities and protection-and-rescue services

☐ Stronger professional communication through media and social networks

☐ Other

☐ Do not know

24. What do you see as the greatest weakness in informing citizens about the role of humanitarian organizations in disasters?

*Select one answer.*

☐ Insufficient visibility of activities

☐ Insufficient practical information for citizens

☐ Insufficient local-community presence

☐ Insufficient use of social media and digital channels

☐ Unclear distinction between humanitarian and state roles

☐ No significant weakness

☐ Cannot assess

25. Overall, how would you rate the importance of the Red Cross of Serbia for local-community resilience and safety during disasters?

☐ 1 — Very low

☐ 2 — Low

☐ 3 — Moderate

☐ 4 — High

☐ 5 — Very high

☐ Cannot assess

26. If you wish, please provide one suggestion for improving the role of the Red Cross of Serbia and humanitarian organizations in disaster preparedness and response.

What do you see as the greatest weakness in informing citizens about the role of humanitarian organizations in disasters? Insufficient visibility of activities / Insufficient practical information for citizens / Insufficient local-community presence / Insufficient use of social media and digital channels / Unclear distinction between humanitarian and state roles / No significant weakness / Cannot assess

Overall, how would you rate the importance of the Red Cross of Serbia for local-community resilience and safety during disasters? 1 = Very low; 2 = Low; 3 = Moderate; 4 = High; 5 = Very high; Cannot assess

If you wish, provide one suggestion for improving the role of the Red Cross of Serbia and humanitarian organizations in disaster preparedness and response. Thank you for your time and participation.

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