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Strengthening Disaster Response Skills and Volunteer Mindset Through the Tiga Serangkai University PMI KSR Field Training

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Abstract. Volunteers from university humanitarian units often hold theoretical knowledge of disaster response but have limited practical and psychological readiness for real emergencies. This community service study describes a field education and training program for 29 prospective student members of the Indonesian Red Cross Volunteer Corps (KSR PMI) at Tiga Serangkai University, held in Boyolali on June 29–30, 2026. The program combined classroom instruction with outdoor field simulations under psychological stress, in which teams performed five skills (triage, wound dressing, CPR, stretcher assembly, and victim transport) within set time limits. Performance was assessed with a standardized 0–4 rubric at each station (maximum 20 points; passing score 15), complemented by participatory observation and qualitative descriptive analysis. Without a pre-training baseline, the findings describe end-of-program achievement: 25 of 29 participants (86.2%) met the qualification standard, and 14 were formally inducted as core members and 11 as volunteers, while the remaining 4 will retake the training next semester and remain recorded as prospective members. Observations recorded early miscommunication that gave way to better team coordination, although these were not measured with a standardized instrument. The study suggests that combining technical skill testing with stress conditioning may help translate classroom knowledge into operational readiness and may offer a training model adaptable to other campus-based disaster response units. Because the design lacks a control group and a baseline measurement, further research with pre-tests and comparison groups is needed. Periodic refresher training is recommended to maintain these capabilities.

Keywords: Disaster Preparedness, Field Simulation, First Aid, KSR PMI, Mental Resilience, Volunteer Training
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INTRODUCTION

Indonesia is classified as a region with a high frequency of natural disasters. This situation requires a preparedness system involving various segments of society, including college students. The Indonesian Red Cross Volunteer Corps (KSR PMI) serves as the frontline of humanitarian volunteers at the campus level, trained to support disaster emergency response. However, the main issue in the current volunteer training system is the gap between theoretical understanding (classroom material) and psychological and practical readiness in actual disaster situations. Simulation-based training has been associated with gains in disaster preparedness knowledge, skills, and self-efficacy [1].

To address these challenges, the PMI Student Rescue Corps (KSR) at Tiga Serangkai University organized a Field Education and Training (Diklat Lapang) program. The primary objective of this program was to comprehensively assess prospective members' skills in first aid, evacuation procedures, and disaster mitigation. In addition, this program aims to foster a resilient volunteer mindset capable of withstanding pressure, cultivate solidarity (team spirit), and officially confirm volunteer membership so that participants are ready to be deployed in humanitarian operations both on and off campus.

METHODS

This community service activity employs a modified experiential learning approach through an integrated field simulation method. The primary target of this activity is 29 students who are prospective members of the Indonesian Red Cross (PMI) Volunteer Corps (KSR) Student Activity Unit (UKM) at Tiga Serangkai University. The choice of the field simulation method is based on academic findings that confirm that simulation-based mitigation education and training have been empirically proven to be more effective in improving volunteers' memory retention, preparedness, and motor skills compared to one-way theoretical

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instruction [2]. A key modification incorporated into this method is the integration of emergency technical skills testing with psychological stress testing. This modification was implemented because emergency response situations demand mental resilience and cross-individual collaboration, and stress exposure during team training has been associated with improved team processes and performance [3].

Implementation details. The field training was conducted on June 29–30, 2026 at Ngesrep Village Field, Ngemplak, Boyolali. The 29 participants were divided into 5 teams of approximately 5-6 members each. The simulation consisted of 5 posts, namely training stations on triage, wound dressing, CPR, stretcher assembly, and victim transport. The psychological stress test requires each team to perform rapid triage, emergency wound dressing, and precise stretcher assembly under simulated critical conditions. Teams must perform CPR consistently for 5 minutes on a victim in respiratory arrest, followed by transporting the simulated victim to the final evacuation point within 15 minutes. Alfirdous Geraldi Agviandra, Chair of the KSR Student Club at Tiga Serangkai University for the 2024–2026 term, assessed participants offline at each station. Faizal Effendi assessed the same performances online, using videos of each team submitted for every station, and compiled the final scores using the rubric described below.

Table 1. Psychological Pressure Test Rubric (Scale 0–4)

Assessed Skill	Level 0 (Non-Performance)	Level 1 (Emerging)	Level 2 (Developing)	Level 3 (Competent)	Level 4 (Exemplary)	Station
Triage	Fails to categorize victims or causes simulated fatal delays; panics under stress.	Frequent miscategorizations (>2 errors); takes >60 seconds per victim.	Correct categorization with 1 minor error; takes 30–60 seconds per victim.	100% accurate triage accuracy; completed in <30 seconds per victim under stress.	Flawless categorization in <15 seconds; displays exceptional leadership and command.	**1**
Wound Dressing	Improper technique causing simulated secondary injury; fails to control bleeding.	Loose dressing or improper splinting; slow execution; breaches safety protocols.	Functional dressing/splinting; minor looseness or hesitation under pressure.	Secure dressing and effective hemorrhage control; swift execution under stress.	Masterful wound management; highly secure, rapid, and aseptic technique under high pressure.	**2**
Stretcher Assembly	Unstable structure posing drop risk; fails to assemble functional stretcher.	Incorrect knotting/lashing; assembly time >8 min; structural instability.	Functional stretcher; minor knot slack; completed within 5–8 minutes.	Sturdy, safe stretcher; proper knot tension; completed in <5 minutes.	Rapid assembly (<3.5 min); exceptionally rigid, ergonomic, and perfectly balanced.	**3**
Victim Transport	Victim dropped or injured; team collapses physically; abandons route.	Exceeds time limit (>20 min); poor team coordination; unsafe handling on terrain.	Completed in 15–20 min; minor coordination lapses; victim arrives safely.	Completed within 15 min; smooth transport across steep terrain; strong cohesion.	Completed in <12 min; flawless teamwork, high physical stamina, and optimal victim safety.	**4**
CPR (5 Min)	Incorrect hand placement or depth; halts procedure prematurely (<2 min).	Inconsistent compression rate/depth; frequent interruptions due to fatigue.	Correct technique for <3 min; performance degrades noticeably under exhaustion.	Maintains correct rate (100–120 bpm) and depth consistently for 5 minutes.	Flawless mechanics and stamina; effortless cycle transitions with zero fatigue degradation.	**5**

The procedure for carrying out this activity is divided into three consecutive stages. The first stage involves providing "classroom instruction," delivered by resource persons (see Figure 1). Instilling a cognitive understanding of safety procedures and first aid is essential as the foundation for making risk mitigation decisions before students head out into the field [4]. The second stage was Field Education and Training (Field Training). The 29 participants were divided into 5 teams and faced simulated disaster scenarios in an open-air setting. Participants practiced five skills: triage, wound dressing, CPR, stretcher assembly, and victim transport. Because skill retention is often poor after initial training, repeated practice and refresher sessions are important for maintaining psychomotor skills in accordance with standard operating procedures (SOPs) [5].



Figure 1. Classroom Instruction

The third stage is the evaluation process. Simulation exercises are often evaluated with heterogeneous methods and terminology [6]. Therefore, data collection was conducted through participatory observation and performance assessments using a standardized emergency response evaluation rubric provided by the instructors at each station. Each skill was scored on a 0–4 rubric per station (maximum 20 points), and a participant is considered competent when they achieve a minimum passing score of 15 out of 20. Because no pre-training assessment was administered, the results reflect end-of-program achievement only. Qualitative descriptive data analysis was used to holistically evaluate participants' technical proficiency, behavioral changes, level of discipline, and the dynamics of teamwork [7]. This analytical approach has been used to describe capacity-building activities in volunteer training [8]. This evaluation process culminates in the conferral of full membership on students who are deemed competent and resilient.

RESULT AND DISCUSSION

This Field Education and Training (Diklat Lapang) program was attended by 29 students who are prospective members of the Tiga Serangkai University PMI Student Rescue Corps (KSR). The results and impact of this community service program were evaluated based on three main aspects: technical skills, mental resilience and team spirit, and readiness for duty.

Emergency and Evacuation Skills Test

Based on the results of the performance assessments at the simulation stations, 86.2% of participants (25 out of 29 students) were able to apply emergency SOPs quickly and accurately under stress, covering triage, wound dressing, CPR, stretcher assembly, and victim transport. The per-skill and per-post rubric scores are summarized in the following table.

Table 2. Competency Recapitulation: Psychological Pressure Test

Evaluation Station	Assessed Skill	Competent Participants	Percentage (%)	Achievement Status
Station 1	Rapid Triage	26 / 29	89.7%	Meets Standard
Station 2	Wound Dressing	25 / 29	86.2%	Meets Standard
Station 3	Emergency Stretcher Assembly	27 / 29	93.1%	Meets Standard
Station 4	Victim Transport (15 Mins)	25 / 29	86.2%	Meets Standard
Station 5	Continuous CPR (5 Minutes)	25 / 29	86.2%	Meets Standard
CUMULATIVE TOTAL	**Participants Competent Across**	**25 / 29**	**86.2%**	**Target (85%) Achieved**

	All Stations			

The pass threshold was 15 out of 20 points, while Alfirdous Geraldi Agviandra assessed participants offline and Faizal Effendi assessed them online through team videos and compiled the final scores presented in Table 2. While participants still appeared hesitant during the orientation phase, field observations indicated that hands-on simulation helped students become familiar with equipment and procedures, which is consistent with reports that simulation-based training supports practical skill development [2]. Because no pre-training assessment was conducted, these figures describe final achievement and cannot be interpreted as improvement relative to a baseline.

Mental Strengthening and Fostering a Sense of Camaraderie

In the context of disasters, mastering soft skills, specifically mental resilience, is considered just as crucial as hard skills. The emergency simulation was designed to subject the 29 students to psychological stress, such as following instructions under pressure, strict evacuation deadlines, and navigation challenges in open terrain. Based on a qualitative descriptive analysis of participatory observation notes, this pressure initially triggered confusion and miscommunication. As the simulation progressed, participants appeared to adapt and coordinate more effectively. Observation notes for each stage are summarized as follows. In the first stage, most participants were able to perform rapid and efficient triage, although there were some minor inconsistencies in the bandaging technique for severe wounds due to the pressure of the simulation. In the next stage, the assembly of the emergency stretcher, the stretcher was assembled very sturdily and stably; however, the speed of victim transport slowed midway through the route due to physical constraints and team fatigue. During the CPR phase, the procedure was performed consistently with good compression depth, although some participants began to show a decrease in rhythm in the final minutes. In total, 7 specific incidents were recorded, consisting of 3 instances of delays in wound bandaging and 4 instances of a decrease in CPR compression rhythm due to physical fatigue. One pattern noted was that participants who were physically fitter took the initiative to carry a greater share of the load, such as taking turns carrying the stretcher. These observations are consistent with findings that stress exposure in team training can improve team processes [3]. However, because they were not recorded with a standardized instrument, they should be interpreted as observational findings rather than confirmed outcomes. Figure 2 illustrates one of the victim response simulations conducted during this stage.



Figure 2. Victim Response Simulations

Formal Training and Readiness for Service

The program concluded with a cumulative evaluation of the 29 students based on their performance in skills tests, observations of discipline, and group dynamics. The number of participants who met the minimum qualification standards was 25, based on the assessment by both instructors. The four participants who did not meet the standards will retake the field training in the next semester. As the culmination of the program, 14 students were formally inducted as core members of the PMI Student Volunteer Corps (KSR). The remaining 11 participants became permanent members who can serve as volunteers. The other 4 participants remain recorded in the KSR student activity unit as prospective members (calon anggota) while awaiting the field training in the next semester. This induction gives the Student Activity Unit (UKM) 25 additional members who demonstrated competence in the skills tests and in discipline and teamwork, and who may be considered for deployment in emergency operations and humanitarian activities under unit supervision.

CONCLUSION

The field training program for prospective members of the Tiga Serangkai University PMI Student Rescue Corps (KSR) appeared to be effective in transforming theoretical knowledge (classroom material) into practical, applicable skills. Through simulation exercises and stress tests, participants demonstrated competence in first aid and evacuation skills at the end of the program, and observations suggested gains in discipline, mental resilience, and camaraderie, although these were not measured with a standardized instrument. Because the program had no control group and no baseline measurement, the findings should be read as end-of-program achievement rather than proven change, and the effectiveness of simulation exercises remains heterogeneous across studies [6]. As a follow-up measure, the institution is expected to conduct periodic refresher simulations (recertification) [5] to ensure that the disaster response capabilities of KSR PMI volunteers remain sharp. Future studies should include a pre-test, a comparison group, and standardized observation instruments.

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