

Article

From Able to Help to Taking Action: Mechanisms and Educational Pathways Through Which First Aid Education Fosters Social Responsibility Among University Students

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Abstract: First aid education in universities is both an important component of public-health capacity building and a preparation for the basic social responsibilities that students may assume in public life. Existing research has focused primarily on knowledge and skill training in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED) use, and trauma care. Yet learning first aid does not necessarily mean that students will feel confident, be willing, or be able to take appropriate action in real emergencies. Drawing on a conceptual analysis and integrative narrative review, this article synthesizes evidence on first aid training outcomes, university students' willingness to perform bystander CPR, self-efficacy, the theory of planned behavior, the bystander effect, and norm activation. It proposes a four-stage model: Able to Help–Confident to Help–Willing to Help–Taking Action. In this model, first aid knowledge and procedural skills provide the capability base for being able to help; repeated practice, mastery experiences, and scenario simulation strengthen first aid self-efficacy and create confidence to help; behavioral attitudes, subjective norms, legal and risk perceptions, empathy, and personal responsibility shape willingness to help; and actual socially responsible action requires students to recognize an emergency, accept a role, select an appropriate response, and coordinate with others in real or high-fidelity scenarios. Based on this model, a six-stage educational pathway is proposed: knowledge learning, skills training, scenario simulation, responsibility and ethics discussion, reflective learning, and public practice. A four-dimensional evaluation framework covering knowledge, skills, psychological readiness, and socially responsible behavior is also developed. The article argues that university first aid education should neither end with a one-time skill examination nor reduce social responsibility to an abstract moral slogan. Instead, students should be supported through continuous,

contextualized, and observable learning processes that enable them to transform first aid capability into appropriate public action while respecting personal safety, competence boundaries, and professional standards. Conceptually, the article contributes by integrating social cognitive theory, the theory of planned behavior, bystander-intervention research, and norm activation into a stage-specific framework that distinguishes capability, self-efficacy, intention, and observable action rather than treating first aid training as a single direct route to social responsibility.

Keywords: University students; First aid education; Social responsibility; First aid self-efficacy; Helping intention; Bystander behavior

1.Introduction

Sudden cardiac arrest, choking, severe bleeding, and accidental injuries are highly time-sensitive emergencies. Before professional responders arrive, the ability of the first person on scene to recognize a problem, activate the emergency medical system, and provide appropriate assistance can affect the subsequent chain of care. The basic emergency care framework developed by the World Health Organization and the International Committee of the Red Cross emphasizes early recognition and systematic initial management of acute illness and injury as a core component of emergency capacity (World Health Organization & International Committee of the Red Cross, 2018). The 2025 European Resuscitation Council education guidelines likewise stress that resuscitation education should address not only knowledge and skill acquisition, but also simulation, feedback, technology-enhanced learning, and learner attitudes (Nabecker et al., 2025).

University students are an important population for public first aid education. Campuses concentrate large numbers of people in dormitories, sports facilities, cafeterias, classrooms, and public events, creating realistic emergency needs. Students also have strong learning capacity, broad social participation, and the potential to diffuse first aid knowledge into future workplaces and communities. Increasingly, universities are therefore incorporating CPR, AED use, and basic trauma care into safety education, health education, or general education. A persistent problem, however, is that evaluation often ends with whether students remember the steps or can complete a simulated procedure, without asking whether they will assume an appropriate public role when an emergency actually occurs.

Existing evidence demonstrates a clear distance between capability and action. Lu et al. (2017), studying students from 18 Chinese universities, found that self-perceived CPR competence, previous rescue experience, and knowledge were associated with willingness to perform bystander CPR. In a survey of 1,128 students from 12 universities in Chongqing, Mao et al. (2021) reported that only 34.1% were willing to perform bystander CPR on a stranger; lack of confidence, fear of causing additional injury, and concerns about legal responsibility were important barriers. Variables from the theory of planned behavior—attitudes, subjective norms, and perceived behavioral control—significantly predicted willingness. A 2026 study of Chinese university freshmen again showed a substantial gap between having heard of CPR/AED and reporting mastery of the procedures; skills, confidence, and legal knowledge were all associated with willingness to help (Hou & Mao, 2026).

Even more importantly, a Cochrane review of 36 studies concluded that first aid training for laypeople is likely to improve short-term knowledge, skills, and self-efficacy, but evidence regarding willingness to help remains very uncertain and evidence on actual helping behavior is limited (Kendall et al., 2025). This gap means that the logic of first aid education cannot be simplified to training, knowledge gain, and automatic helping behavior. Students may know what to do yet still fail to act because of fear, ambiguity of responsibility, social influence from other bystanders, or uncertainty about risk.

From an educational perspective, this gap links first aid education with social responsibility. Social responsibility does not mean asking students to take unconditional risks, nor does it justify moralizing inaction as indifference. Rather, it refers to the capacity to recognize a public risk and assume an appropriate role within the limits of one's competence and safety—for example, calling

emergency services, locating an AED, directing other people, maintaining scene safety, providing basic assistance within one's training, and cooperating with professionals. The central question of this article is therefore how university first aid education can move beyond whether students can perform a procedure toward whether they are confident to help, willing to help, and ultimately able to take appropriate action. Accordingly, the contribution of this article is not to claim that first aid training broadly improves students' general social responsibility, but to specify a context-bound mechanism through which first aid capability may be translated into responsible action in public emergencies. The proposed model is intended to provide a clearer conceptual basis for curriculum design and for future empirical testing of distinct transition points between capability, confidence, willingness, and action.

2 University First Aid Education: Research Progress and Theoretical Explanation

University first aid education has historically developed from knowledge dissemination toward practical skill training. Early programs often relied heavily on lectures and public information, with the aim of familiarizing students with CPR, AED use, and basic management of common injuries. Knowledge alone, however, does not guarantee skill. Resuscitation education guidelines emphasize hands-on practice, feedback, simulation, and repeated learning (Nabecker et al., 2025). CPR in particular involves procedural characteristics such as compression position, rate, depth, and continuity that require physical rehearsal. The movement from knowing to doing is therefore the first major step in improving the quality of first aid education.

Training is effective, but its effects differ by outcome level. Kendall et al. (2025) found comparatively stronger evidence that first aid training improves short-term knowledge, skills, and self-efficacy, whereas conclusions about willingness to help and actual helping behavior were much weaker. This pattern suggests a hierarchy of outcomes. Knowledge is the easiest domain to change within a course, followed by performance in standardized practice and confidence; real public behavior is influenced by a wider set of situational and social factors. Programs that assess only the first two levels may therefore overestimate their real-world impact.

University students' barriers are not limited to lack of knowledge. Mao et al. (2021) showed that lack of confidence, fear of causing further harm, and concerns about legal liability were important reasons for reluctance to perform CPR. Lu et al. (2017) likewise found close relationships between perceived competence and willingness. Hou and Mao (2026) again demonstrated a clear gap between awareness of CPR/AED and perceived ability to perform the procedures. These findings imply that simply increasing the amount of information taught is unlikely to produce behavioral change unless confidence, risk, and responsibility are addressed.

Willingness to help is also not the final outcome. Matsuyama et al. (2020), in a scoping review of bystander CPR willingness, identified barriers and facilitators across personal factors, CPR knowledge, and procedural issues. A survey response stating "I would help" is a behavioral intention, not the behavior itself. A student may sincerely intend to help but still fail to act because the emergency is not recognized, everyone else is waiting, or the AED cannot be located. First aid education therefore needs to move from the study of willingness to the study of behavior under contextual pressure.

The social-responsibility dimension has not yet been sufficiently incorporated into educational models. Existing first aid education appropriately draws on medical, nursing, and

public-health perspectives and emphasizes life-saving skills. Yet when the learners are ordinary university students, another question becomes unavoidable: what responsibility should a non-professional citizen assume in a public emergency? Social responsibility is not an ideological add-on to skill training. It may be one of the variables that determines whether capability is actually used. Connecting capability, confidence, social norms, and responsibility therefore represents an important theoretical gap.

Social cognitive theory helps explain the transition from being able to help to being confident to help. Bandura (1997) defined self-efficacy as a person's belief in the capacity to organize and execute a specific behavior. In an emergency, knowledge and skill are not identical to confidence. A student may perform CPR successfully when guided by an instructor but still avoid action if unsure about performing without prompts. Repeated practice, successful performance, peer observation, and teacher feedback can strengthen first aid self-efficacy, which helps explain why hands-on training usually creates greater behavioral readiness than lecture-only instruction.

First aid self-efficacy is also task- and context-specific. A student may feel confident compressing a manikin but lack confidence in helping a stranger in public; may know chest compressions but not know how to direct another person to call emergency services or retrieve an AED. Courses should therefore not treat "I can perform CPR" as a single global confidence judgment. Efficacy should be developed across recognition, calling, coordination, and procedural action. The empirical findings of Lu et al. (2017) and Mao et al. (2021) support the importance of perceived competence and behavioral control for helping willingness.

The theory of planned behavior helps explain the transition from confidence to willingness. Ajzen (1991) proposed that behavioral intention is influenced by attitudes, subjective norms, and perceived behavioral control. Applied to first aid, willingness depends not only on whether students believe they can act, but also on whether they see helping as worthwhile, whether important others and the institution support the behavior, and whether they perceive sufficient control over the situation. Mao et al. (2021) found positive relationships between all three TPB constructs and willingness to perform bystander CPR, giving the theory direct relevance for university course design.

This implies that first aid education should actively address attitudes and norms. Real cases can illustrate the value of timely help without constructing heroic narratives. Teachers and institutional procedures can communicate the norm that basic first aid is a public capability rather than the exclusive responsibility of professionals. Repeated practice and clear action sequences can strengthen perceived control. In this way, willingness is grounded in capability and social support rather than in abstract goodwill.

The bystander effect helps explain why willingness may still fail to become action. Classic work by Darley and Latané (1968) showed that the presence of other bystanders can diffuse responsibility and delay intervention. A later meta-analysis by Fischer et al. (2011) confirmed the general bystander effect while showing that it varies according to danger, social context, and intervention cost. First aid emergencies commonly involve crowds, incomplete information, and time pressure. Even a student with positive helping intentions may therefore assume that "someone else will know what to do."

Courses should consequently train explicit responsibility allocation. In simulation, students should practice not only chest compressions but also direct commands such as "You, call

emergency services,” “You, bring the AED,” and “Please give us space.” Such role assignment reduces ambiguity of responsibility and transforms helping intention into concrete coordinated action. First aid education must teach students how to act in a social scene, not only how to perform an isolated procedure in a quiet classroom.

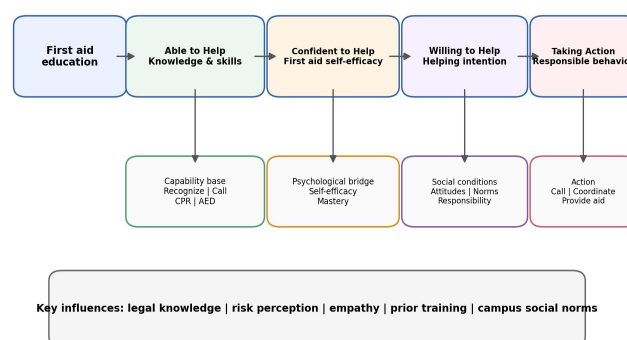
Norm activation theory further clarifies the role of social responsibility. Schwartz (1977) argued that helping behavior is shaped by personal moral norms and perceived responsibility. When students recognize that consequences are serious, believe that they possess some capacity to act, and feel a personal obligation to do what is realistically possible, a personal norm is more likely to be activated. Social responsibility in first aid can therefore be understood as linking awareness of another person’s need with one’s own realistic capacity for public action.

Responsibility activation must always operate together with clear capability boundaries. Social-responsibility education should not push non-professional students toward high-risk procedures beyond their training. Rather, it should follow a principle of “the clearer the capability, the more specific the responsibility.” A student without advanced medical skills can still call emergency services, retrieve an AED, and provide scene information; a student trained in CPR can perform basic life support when conditions are safe. This conception avoids both indifference and boundaryless risk-taking.

3 The Able to Help–Confident to Help–Willing to Help–Taking Action Model

The proposed four-stage model begins with “Able to Help,” the capability foundation that answers whether the student knows what to do and can perform the basic procedure. The second stage, “Confident to Help,” concerns psychological readiness and asks whether the student believes the behavior can be executed under pressure. The third stage, “Willing to Help,” refers to behavioral intention and asks whether the student considers helping appropriate and is willing to assume a role. The final stage, “Taking Action,” concerns socially responsible behavior in practice: whether the student can recognize the situation, accept responsibility, select an appropriate response, and act. The stages are not mechanically linear, but they represent a meaningful progression from capability to real-world behavior.

Figure 1. Four-Stage Model of First Aid Education: Able to Help–Confident to Help–Willing to Help–Taking Action



Note. The model extends first aid education beyond knowledge and skills toward behavioral readiness and socially responsible action.

Source: Developed by the authors based on the integrated theoretical and empirical literature.

Figure 1 should be interpreted as a staged but non-deterministic framework rather than a fixed causal sequence. Progression from one stage to the next can be interrupted or strengthened by different factors: procedural competence is most directly relevant to being able to help; mastery experiences and perceived control are central to confidence; attitudes, norms, legal understanding, and personal responsibility shape willingness; and situational recognition, role allocation, and bystander dynamics influence whether willingness becomes observable action. The lower-level factors in the figure therefore function as stage-specific conditions or moderators, and the arrows represent theoretically proposed transitions that require empirical verification.

“Able to Help” includes both knowledge and procedural skill. Knowledge involves recognizing abnormal consciousness or breathing, knowing when to activate emergency services, and understanding the basic principles of CPR and AED use. Skills include chest compressions, AED operation, and basic management of common trauma. Nabecker et al. (2025) emphasized that resuscitation education should address knowledge, skills, and attitudes simultaneously. “Able to Help” therefore refers not to theoretical memory alone but to the capacity to execute a basic standard procedure. This capability should be verified through practical assessment rather than multiple-choice testing alone.

“Confident to Help” centers on self-efficacy and adaptation to pressure. Moving from a skill examination to a real emergency requires students to overcome the psychological threshold of being afraid to make a mistake. First aid self-efficacy develops through repeated success, timely feedback, progressively more demanding scenarios, and accurate understanding of what errors mean. Training can move from isolated procedures toward situations that include noise, crowds, time pressure, and team coordination, thereby narrowing the psychological gap between simulation and real action.

“Willing to Help” involves attitudes, norms, and perceived responsibility. Capability and confidence are not sufficient if students remain unwilling to act. Several realistic concerns must be addressed: fear of causing additional harm, misunderstandings about legal responsibility, psychological distance from a stranger, and the belief that “only professionals should help.” Hou and Mao (2026) found relationships among legal-protection knowledge, skill, and willingness, indicating that legal and responsibility education should not be treated as an optional add-on.

“Taking Action” requires situational recognition and implementation of responsibility. Actual helping begins by noticing an abnormal event and interpreting it as an emergency. The student must then accept some responsibility rather than waiting for someone else and choose a response aligned with personal competence. Taking action does not necessarily mean performing chest compressions. It may involve calling emergency services, retrieving an AED, maintaining scene safety, coordinating others, performing CPR, or communicating with professional responders. Including these actions within the concept of social responsibility avoids reducing “helping” to a single medical procedure.

The stages are also shaped by several potential moderators. Legal knowledge, risk perception, empathy, previous training, campus norms, and the number or behavior of other bystanders may influence different points in the pathway. Skill level may primarily affect the Able and Confident stages; subjective norms and personal responsibility may be more influential for Willing; and group presence and diffusion of responsibility may be especially relevant for Taking Action.

These distinctions provide a basis for future multivariable models examining mediation and moderation.

4 Educational Pathways and Evaluation for Social Responsibility Development

The six-stage educational pathway proposed below operationalizes the four-stage model rather than constituting a separate framework. Knowledge learning and skills training primarily build the Able to Help stage; repeated practice and scenario simulation strengthen Confident to Help; responsibility and ethics discussion, legal clarification, and reflective learning support Willing to Help; and public practice provides opportunities to rehearse Taking Action under realistic social conditions. The corresponding evaluation framework therefore assesses not only what students know and can perform, but also whether they are psychologically prepared and able to enact appropriate responsibility in context.

The first stage of instruction is knowledge learning, which should establish an accurate cognitive frame for emergencies. The aim is not to overload ordinary students with professional medical knowledge, but to focus on the judgments they are most likely to need: how to recognize a potentially life-threatening situation, ensure personal safety, activate emergency services, identify when CPR and AED use are appropriate, and provide initial management of common bleeding or choking. The WHO/ICRC basic emergency care framework emphasizes systematic initial assessment (World Health Organization & International Committee of the Red Cross, 2018). The core objective of knowledge teaching should therefore be a simple mental sequence: identify the problem, determine urgency, and take an appropriate first step.

The second stage is skills training, through which knowledge becomes executable action. Students need repeated practice with manikins and AED trainers and should receive standardized feedback. Training must permit errors in a safe environment and correct them promptly rather than limiting practice to a single demonstration before assessment. Nabecker et al. (2025) highlighted feedback, simulation, and distributed learning. For ordinary university students, the instructional target should be basic, reliable, and retainable performance rather than unnecessary procedural complexity.

The third stage is scenario simulation, which transforms isolated skills into an integrated action chain. Scenarios can reflect common campus settings: a student collapsing during sport, airway obstruction in a cafeteria, accidental bleeding in a dormitory, or sudden loss of consciousness during a public event. Students should not be told in advance which skill is being tested. They should have to notice, interpret, call for help, allocate roles, act, and wait for professional support. Noise, other bystanders, and the location of equipment can be introduced as realistic variables.

The fourth stage involves responsibility and ethics discussion, clarifying why action matters and where action should stop. After skill practice, students should discuss realistic concerns: What if the victim is a stranger? If I am afraid of doing harm, is it acceptable to call for help without performing a procedure? When should I stop attempting to manage the situation and wait for professionals? How should privacy and dignity be protected? These discussions are not moral lectures; they are designed to create responsibility with clear boundaries. Schwartz's (1977) norm-activation perspective suggests that responsibility is strongest when awareness of consequences is linked with a realistic sense of one's capacity to help.

The fifth stage is reflective learning. Students can review scenarios by asking where they hesitated most, whether their difficulty involved knowledge, skill, or confidence, what they would do first in a real event, and whose assistance they would need. Reflection moves experience from the procedural level to the decision level and helps instructors identify common psychological barriers across the class. The purpose is to surface genuine uncertainty rather than require every student to produce the same “correct attitude.”

The sixth stage is public practice. Universities can organize AED-location activities, campus first aid maps, emergency drills, first aid volunteering, and peer education. Such experiences help students understand that first aid is part of campus community life rather than only an examination task. Regular retraining should accompany public practice because competence may decay over time. Together, the six stages create a sequence of knowledge, skill, scenario, responsibility, reflection, and public participation.

First aid self-efficacy is a central psychological bridge between skill and behavior. In Mao et al. (2021), lack of confidence was one of the most salient barriers. Courses should therefore do more than tell students that they ought to help. They should provide enough guided practice for students to develop the certainty that “I know what the first step is.” For non-medical students especially, a clear and simple sequence may increase perceived control more effectively than additional complex medical content.

Risk perception has a dual function. When risk is underestimated, students may attempt procedures outside their competence; when risk is exaggerated, they may avoid all action. Educational goals should therefore not aim to eliminate concern, but to transform vague fear into explicit boundaries: ensure scene safety, activate professional support, and perform only the basic actions for which one has been trained.

Legal knowledge similarly matters because imagined liability can suppress willingness. Mao et al. (2021) and Hou and Mao (2026) both suggest that legal concerns are practically relevant. Universities should use authoritative and current legal or policy information to explain good-faith helping and responsibility boundaries. Instructors should not offer casual guarantees about legal outcomes. The goal is not to make students fearless, but to reduce unnecessary hesitation created by misinformation.

Subjective norms and campus culture also shape action. The theory of planned behavior emphasizes subjective norms (Ajzen, 1991). If the dominant campus message is that “first aid is the job of healthcare workers,” ordinary students may step back even after training. By contrast, institutionalized training, visible AED access, and regular drills can create the norm that basic first aid is a shared capability. The institutional environment is therefore part of the curriculum.

Empathy and personal norms contribute to responsibility, but courses should avoid emotional overstatement. Empathy can transform an emergency from an abstract exercise into the needs of a real person. Schwartz’s (1977) personal-norm perspective provides a more precise explanation: when students are aware of the consequences, recognize their capacity to act, and accept personal responsibility, an obligation to help becomes more likely. Responsibility education should therefore be grounded in capability and situational understanding rather than guilt or moral pressure.

The structure of the bystander situation should be addressed explicitly. Research by Darley and Latané (1968) and Fischer et al. (2011) shows that the presence of others changes

responsibility taking. Students should therefore practice assigning specific roles in a crowd rather than shouting vaguely for “someone” to help. This turns the psychological concept of diffusion of responsibility into a concrete instructional strategy.

If the goal of first aid education includes socially responsible action, assessment must move beyond a single knowledge or skill score. This article proposes four dimensions: knowledge, skills, psychological readiness, and socially responsible behavior. These dimensions correspond to different stages of the behavioral pathway; a single total score can conceal the point at which an individual student is struggling.

The knowledge dimension should assess recognition of emergencies, the call-for-help sequence, basic CPR/AED principles, and common first aid knowledge. The skill dimension should use standardized practical assessment to examine procedural correctness, sequence, and basic safety. These two dimensions primarily correspond to the Able to Help stage and provide the foundation for later behavior.

The psychological-readiness dimension should include first aid self-efficacy, perceived behavioral control, risk perception, legal knowledge, and helping intention. It is especially important to distinguish “I am willing” from “I am confident.” Some students may endorse strong prosocial values but lack a sense of competence; others may feel technically capable yet remain unwilling to help a stranger. Measuring these separately allows more targeted education.

The socially responsible behavior dimension should rely as much as possible on contextualized and observable indicators rather than asking only, “Are you socially responsible?” In a simulated emergency, for example, evaluators can observe whether students approach and check safety, activate emergency services promptly, locate an AED, assign roles clearly, perform actions appropriate to their competence, and protect privacy and scene safety. Such indicators more closely approximate the Taking Action stage.

Assessment should also include retention. High performance immediately after a course does not demonstrate competence several months later. Brief reassessments at one, three, or six months can be used to monitor decay in skill, self-efficacy, and readiness and to schedule retraining accordingly. The stronger short-term evidence and weaker long-term evidence identified by Kendall et al. (2025) make retention assessment particularly important.

5 Discussion

The first argument of this article is that first aid education and social responsibility are not linked through a simple direct effect. Enrolling students in a CPR course does not justify the conclusion that their social responsibility has increased. The theoretically meaningful task is to explain the intermediate process. Training first provides capability; capability becomes self-efficacy through mastery experience; self-efficacy interacts with attitudes, norms, and perceived responsibility to shape willingness; and willingness still has to pass through situational recognition and responsibility taking before observable action occurs. A multistage explanation avoids both moralizing educational outcomes and overstating causal effects.

Second, the Able to Help–Confident to Help–Willing to Help–Taking Action model identifies different types of educational failure. One failure is lack of knowledge: students do not know how to recognize or respond. A second is lack of confidence: students can perform the procedure but are afraid to do so. A third is motivational or responsibility failure: students have

the capability but are unwilling to take a role. A fourth is situational execution failure: students want to help but cannot act in a crowded, stressful, and ambiguous environment. Different failures require different interventions. Repeating the same lecture is unlikely to solve all of them.

Third, social responsibility should be understood as bounded responsibility. This is especially important in first aid. Excessive emphasis on bravery can encourage students to act beyond their competence, while excessive emphasis on risk can reinforce avoidance. Mature responsibility education should communicate that students do not need to become doctors in order to be effective first responders. They do not need to perform every intervention, but they can call for help, retrieve equipment, coordinate other people, and carry out the basic procedures for which they have been trained. This conception is realistic and sustainable.

Fourth, the bystander effect shows that education must move from individual skill to social-situational skill. Many training sessions place a student and a manikin in a quiet room and explicitly tell the student that CPR is the next task. Such an environment has already completed the most difficult parts of real-world behavior: recognizing an emergency and accepting responsibility. Actual emergencies do not announce that an assessment is beginning. High-quality simulation should therefore contain uncertainty, require students to identify the emergency, assign tasks, and respond to other bystanders. The meta-analysis by Fischer et al. (2011) demonstrates that bystander structure systematically influences helping behavior, and this classical finding should inform first aid pedagogy.

Fifth, university first aid education has a general-education value. It is not only relevant to medical or nursing majors. It develops ordinary students' capacity to recognize public risk, coordinate action, and assume limited responsibility. Mao et al. (2021) found that university students' knowledge and training still needed improvement, while Hou and Mao (2026) similarly showed unmet needs among freshmen. Integrating first aid with safety education, life education, and volunteering can contribute to a more coherent campus public-safety culture.

Sixth, claims about "improved social responsibility" should be made cautiously. Social responsibility is broad. A first aid course is more likely to influence responsibility judgments and helping behavior in specific emergency contexts than to change students' global responsibility across all areas of social life. Future empirical work should therefore use constructs such as first aid-specific responsibility or responsible behavior in public emergencies instead of making overly general claims. This would also increase theoretical precision.

Seventh, responsibility education should emphasize the match between responsibility and competence rather than simply increasing the intensity of moral obligation. Value education sometimes assumes that more responsibility is always better, but in first aid, responsibility detached from capability and safety can lead to inappropriate intervention. A more reasonable goal is layered responsibility: everyone can recognize an abnormal event, call professional help, and locate equipment; those with standardized CPR/AED training can assume corresponding basic life-support tasks; advanced interventions should remain with professionals. Layered responsibility makes social responsibility executable while avoiding unreasonable moral pressure on ordinary students.

Eighth, legal and ethical content should reduce behavioral uncertainty rather than turn the course into a law class. Students' concerns about liability often reflect uncertainty about what happens after they act. Courses should provide authoritative information and distinguish good-

faith assistance, clearly unsafe actions beyond one's competence, and privacy obligations. The association between legal-protection knowledge and willingness reported by Hou and Mao (2026) gives this content practical relevance, but the goal is informed judgment, not absolute promises that "there will never be liability."

Ninth, the campus itself should be treated as a practice environment for responsible first aid action. Whether AEDs are easy to locate, emergency numbers are visible, students have experienced drills, and teachers and security staff understand coordination procedures all influence perceived behavioral control and subjective norms. If a university teaches students to assume responsibility but provides weak institutional and equipment support, there is a mismatch between educational expectations and conditions for action. The theory of planned behavior suggests that intention depends partly on perceived control (Ajzen, 1991). Curriculum reform and campus emergency systems should therefore develop together.

Tenth, responsibility may be strengthened more effectively through repeated exposure than through a one-time moral message. During initial first aid training, students often devote most of their cognitive resources to performing the procedure correctly. Once basic skill becomes more fluent, complex scenarios, ethical conflicts, and team coordination can be introduced to support deeper understanding. A spiral design is therefore appropriate: early stages emphasize safety and the first action, middle stages emphasize confidence and cooperation, and later stages address responsibility, law, and public participation. Such sequencing is more consistent with learning demands than presenting all content at once.

The model also helps identify "breakpoints" between stages of behavioral transformation. A student may know the standard CPR sequence but lack confidence because it has never been practiced under pressure. Another may have strong self-efficacy but still wait because of legal concerns, fear of harm, or social influence from bystanders. A student may express strong willingness on a questionnaire but fail to recognize cardiac arrest quickly, locate an AED, or coordinate others in a real event. Knowledge, skill, self-efficacy, intention, and behavior must therefore be treated as distinct outcomes. Assessing only one stage can overestimate real-world readiness.

Another implication is the need to coordinate procedural automaticity with responsibility judgment. Time-sensitive skills such as CPR benefit from repeated practice until basic actions become sufficiently stable to reduce cognitive load. Yet socially responsible action cannot become a context-free mechanical response because students must still judge scene safety, recognize their competence boundaries, and decide when professional help is required. High-quality simulation can combine these needs by progressively adding noise, bystanders, conflicting roles, and incomplete information. Core procedures should remain stable under pressure while responsibility decisions adapt to the context.

Social responsibility should also be understood within the institutional environment rather than attributed entirely to students' personal qualities. If AED signs are unclear, emergency numbers are difficult to access, public areas lack equipment, or staff themselves do not understand coordination procedures, responsible students may still be unable to act effectively. Conversely, visible equipment, clear procedures, regular drills, and institutional support for reasonable helping behavior communicate positive norms and strengthen perceived control. The social-responsibility

effects of first aid education are therefore likely to emerge from the interaction of curriculum and campus systems.

The concept of social responsibility should not be expanded into a claim of broad personality improvement. First aid education most directly affects responsibility judgments, willingness, and action readiness in public emergencies rather than global responsibility in all domains. Future research should use context-specific outcomes—such as first aid responsibility cognition, bystander action intention, responsibility taking in simulation, and actual participation in campus first aid activities—rather than relying solely on broad general social-responsibility scales. This can reduce social-desirability bias and improve alignment between theory and intervention.

In practical terms, universities should reduce one-off lecture-based training and increase hands-on practice with distributed retraining. Legal and responsibility content should be embedded in scenarios rather than appended at the end. Simulations should include realistic variables such as other bystanders, noise, and equipment access. Campus AED-location activities and emergency drills can connect classroom skills with the environment in which they may be used.

Courses for non-medical students should be “sufficient and reliable.” The goal is not to train ordinary students as medical professionals, but to equip them with basic recognition, activation, coordination, and simple assistance skills. Assessment should address knowledge, skill, self-efficacy, intention, and contextual behavior, and retention should be monitored through periodic retraining.

Universities can also develop tiered certification and retraining systems. Students who complete a basic course may receive documentation of core first aid capability, while students engaged in volunteering or event safety roles can receive more frequent skills review. Course grades and public participation need not be identical, but electives, co-curricular activities, or volunteering can create continued practice opportunities. This approach avoids imposing excessive training burdens on all students while providing deeper pathways for those who wish to develop further capability.

Interdisciplinary teaching teams are equally important. Medical or emergency-care professionals are needed to ensure technical standards and skills assessment; education specialists can contribute scenario design, reflection, and responsibility education; campus safety staff can provide emergency procedures and equipment information. Such collaboration reduces the risk of either teaching skills without educational design or teaching values without medical accuracy.

Individual differences among students should also be considered. Previous first aid experience, medical background, volunteering, and family experience can all influence familiarity with emergencies. If every learner receives identical training, experienced students may lack challenge while complete beginners may encounter complex scenarios too early. Brief diagnostic tasks can identify starting points, followed by basic and advanced tasks within shared core standards. The goal is not to create status divisions between “professional” and “ordinary” students, but to ensure that students at different starting points can obtain authentic mastery experiences.

Finally, course communication should avoid presenting first aid as a one-time “life-saving skills check-in.” If students understand training merely as another institutional requirement, motivation may disappear once the examination ends. More sustainable approaches connect first

aid to campus life through sports events, orientation, social practice, and volunteering. When first aid becomes part of the everyday norms of the campus community rather than a short-term course, responsibility is more likely to move from classroom attitude toward stable behavioral tendency.

Institutions should also build a curriculum feedback loop. Instructors should record not only examination scores but also common hesitation points, procedural errors, and situational decision problems, and then use that evidence to revise subsequent training. If students can perform CPR but do not clearly direct another person to call emergency services, the next cycle should emphasize team coordination. If legal concerns are dominant, authoritative legal information and case discussion should be strengthened. Continuous evidence-based course revision can transform first aid from a one-off activity into an iterative public-safety education system.

This article is conceptual and integrative, and the four-stage model has not yet been tested directly with experimental, longitudinal, or multi-site data. The proposed relationships should therefore be treated as theoretically grounded hypotheses rather than established causal effects. Future studies should use pretest–training–posttest–follow-up designs that assess knowledge, procedural skill, first aid self-efficacy, helping intention, and observable behavior as distinct outcomes. Behavioral indicators are particularly important because self-reported willingness can overestimate real-world readiness; standardized simulations can record emergency recognition, time to activate help, AED retrieval, role allocation, and performance within competence boundaries. Longer-term follow-up is also needed to examine skill decay, retention of confidence, and whether repeated or distributed training produces more durable action readiness. In addition, multi-university and cross-regional studies should test whether legal context, campus emergency infrastructure, prior training, empathy, and social norms moderate different transitions in the model. Such designs would allow researchers to determine where the pathway most often breaks down and which educational components produce incremental benefit beyond basic skills instruction.

6 Conclusion

The maturity of university first aid education should not be judged solely by whether students can pass a CPR skills examination. Knowledge and skill determine whether students are able to help; self-efficacy shapes whether they are confident to help; attitudes, social norms, and responsibility influence whether they are willing to help; and genuine public responsibility requires students to recognize an emergency, accept a role, and take appropriate action under real conditions.

The Able to Help–Confident to Help–Willing to Help–Taking Action model and the six-stage educational pathway proposed in this article connect first aid skill development with psychological readiness and social responsibility. The objective is not to encourage university students to take risks in every emergency, but to ensure that, within the boundaries of personal safety, competence, and professional standards, they know what they can do, understand what they should do, and are willing to assume an appropriate role when help is needed. In this sense, first aid education has value not only for public health but also for the development of public-safety literacy and responsible action among university students.

AUTHOR CONTRIBUTIONS

Liang Shang: Conceptualization; research design; methodology; literature review; theoretical framework development; model construction; educational pathway design; evaluation framework design; writing - original draft; writing - review & editing.

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CONFLICT OF INTEREST STATEMENT

The author declares that there are no commercial or financial relationships that could be construed as a potential conflict of interest.

DATA AVAILABILITY STATEMENT

This article is a conceptual and integrative review and does not involve the collection of original empirical data. All sources cited in this article are publicly available.

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