Accessibility of Kavalan SOS App among College Students

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Article Info	Abstract:
	The rapid expansion of mobile governance and digital public services has introduced technology-enabled emergency response applications aimed at enhancing citizen protection. The Kavalan SOS Application, developed by the Tamil Nadu Police, represents a state-level initiative designed to provide real-time emergency assistance through location tracking and distress alerts. Despite its availability, the effectiveness of such applications depends largely on accessibility, awareness, usability, and user readiness. College students constitute a highly mobile and digitally active population, yet their engagement with government-supported emergency applications remains underexplored. This study examines the level of accessibility of the Kavalan SOS App among college students, assessing socio-demographic influences, awareness levels, usability perceptions, and technological barriers. Using a quantitative descriptive research design with a sample of 50 respondents, the study employs percentage analysis, Chi-square testing, and correlation analysis. Findings reveal that while a majority of respondents demonstrate high overall accessibility, significant associations exist between smartphone type and accessibility levels. Furthermore, a strong positive correlation between awareness and usability indicates that knowledge significantly influences effective utilisation. The study underscores the critical role of digital literacy, institutional promotion, and social work interventions in strengthening technology-based emergency preparedness among youth. ***Keywords:*** digital safety, mobile emergency applications, accessibility, college students, social work intervention, digital inclusion

1. Introduction

The increasing digitisation of public services has transformed emergency response systems across India. Mobile applications integrated with law enforcement agencies now function as direct communication channels between citizens and emergency control rooms. These digital interventions are particularly relevant for young adults navigating urban environments, educational spaces, and independent living contexts.

The Kavalan SOS Application, introduced by the Tamil Nadu Police, is designed to provide immediate assistance through GPS-enabled distress alerts and real-time communication with nearby police control units. The application reflects the broader shift toward technology-enabled community policing and citizen participation in emergency response systems.

College students represent a significant demographic within this digital ecosystem. They frequently commute between campuses, hostels, workplaces, and public spaces, often during late hours. However, the mere existence of a mobile application does not guarantee effective use. Accessibility is a multidimensional construct encompassing awareness, technical compatibility, digital literacy, usability, and trust in response systems.

From a social work perspective, ensuring equitable access to emergency support systems aligns with principles of prevention, empowerment, protection, and social justice. Digital safety tools must therefore be evaluated not only in terms of technological design but also in terms of user readiness and institutional support. This study seeks to examine the accessibility of the Kavalan SOS Application among college students and explore its implications for social work practice and campus-based digital safety initiatives.

2. Literature Review

Existing literature highlights the growing importance of mobile-based emergency applications in enhancing rapid response mechanisms. Research indicates that features such as GPS tracking, one-touch alerts, and automated notifications significantly reduce response time and improve coordination (Sharma & Singh, 2022). However, adoption rates are influenced by perceived usefulness, ease of use, and trust in authorities (Patel & George, 2020).

Studies among university populations suggest that while smartphone ownership is high, awareness of government-supported emergency applications remains uneven (Karthika & Devi, 2021). Students often rely on informal support networks rather than formal digital platforms during crises. Accessibility extends beyond availability. Digital literacy, interface simplicity, device compatibility, and internet affordability significantly influence effective utilisation (World Bank, 2023). First-generation learners and rural-background students may experience barriers related to technical navigation and language (Reddy & Prakash, 2018).

Policy reports from the Ministry of Electronics and Information Technology (2020) emphasise the importance of user-friendly design, low data consumption, and cross-platform compatibility to enhance inclusivity.
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Digital safety interventions align with preventive social work strategies. Social workers play a role in awareness generation, community mobilisation, digital literacy promotion, and institutional collaboration. Accessibility must be understood as both technological and psychosocial—requiring confidence, preparedness, and trust. Despite growing policy emphasis, empirical research examining accessibility of specific state-level applications among college students remains limited. This gap justifies the present study.

3. Methodology

A descriptive quantitative research design was adopted for the study, which was conducted among college students in a selected educational institution. Using convenience sampling, 50 smartphone-owning respondents were selected to participate. Primary data were collected through a structured questionnaire comprising three sections: socio-demographic profile, awareness and accessibility, and usability and barriers related to the Kavalan SOS application. The collected data were analysed using frequency and percentage analysis, Chi-square test, and Pearson correlation analysis. The study tested two hypotheses: the existence of a significant association between smartphone type and accessibility level, and a significant relationship between awareness and usability of the application. Ethical considerations such as informed consent, voluntary participation, and confidentiality of responses were strictly maintained throughout the research process.

4. Results & Analysis

The findings of the study reveal important patterns regarding the accessibility of the Kavalan SOS Application among college students. The socio-demographic profile indicates that the majority of respondents

were between 18 and 21 years of age, with near-equal gender representation. Most participants were postgraduate students and predominantly Android smartphone users. A significant proportion reported continuous internet availability, suggesting adequate technological infrastructure to support mobile application usage. However, more than half of the respondents had no prior experience with emergency situations, indicating that practical exposure to emergency response systems remains limited.

In terms of awareness, a substantial proportion of respondents demonstrated knowledge about the purpose, benefits, and functional requirements of the application. Most participants understood that the app requires GPS and internet connectivity and were aware of how to download it. However, awareness regarding specific operational features, such as live location sharing and advanced functionalities, was comparatively moderate. These findings align with previous research suggesting that general awareness does not always translate into comprehensive feature-level knowledge (Sharma & Singh, 2022).

With respect to usability, respondents largely perceived the application interface as clear and user-friendly. Nevertheless, responses regarding app responsiveness and functionality under limited internet connectivity were mixed. Additionally, perceptions concerning accessibility for elderly users, persons with low literacy, and individuals with disabilities showed moderate or neutral trends, indicating the need for inclusive design improvements. These findings reflect broader concerns regarding digital inclusion and user-centered technological development (World Bank, 2023).

Overall accessibility levels were relatively high, with more than half of the respondents demonstrating high accessibility, while a smaller proportion exhibited moderate or low accessibility. The Chi-square analysis revealed a statistically significant association between smartphone type and accessibility level (χ^2 = 11.48, $p <$ .05), indicating that device type influences effective utilisation. Android users were more likely to report higher accessibility compared to iOS and other smartphone users. This suggests that platform compatibility and device affordability may contribute to accessibility disparities.

Furthermore, Pearson correlation analysis identified a strong positive relationship between awareness and usability (r = .682, $p <$ .01). This finding indicates that increased awareness significantly enhances usability perceptions and confidence in application use. The result supports the Technology Acceptance Model, which emphasizes perceived usefulness and knowledge as key determinants of technology adoption (Patel & George, 2020). From a social work perspective, this underscores the importance of awareness generation, digital literacy programmes, and institutional promotion in strengthening emergency preparedness among students.

Overall, the findings demonstrate that while technological access exists among students, accessibility is shaped by awareness levels, device compatibility, and user confidence. Strengthening these dimensions through structured interventions can enhance the effective utilisation of digital emergency response systems in higher education settings.

TABLE 4.32 – CORRELATION
RELATIONSHIP BETWEEN AWARENESS AND APP USABILITY

Hypothesis:H₁: There is a significant relationship between awareness and usability of the Kavalan SOS application.

S. No	Variables	Awareness Score	Usability Score	Statistical Inference
1	Awareness	1	0.682**	r = 0.682
2	Usability	0.682**	1	p = 0.000

The strong positive relationship implies that awareness plays a crucial role in enhancing usability of safety applications. Students who are informed about the functions, benefits and operational procedures of the Kavalan SOS app are more confident in using it during emergencies. Lack of awareness may lead to underutilization even when the application is available. This finding emphasizes the need for awareness programmes, demonstrations, and digital literacy initiatives within educational institutions to improve effective usage of public safety applications (Sharma & Singh, 2022).

FIGURE 4.32 RELATIONSHIP BETWEEN AWARENESS AND APP USABILITY

Relationship between Awareness and App Usability
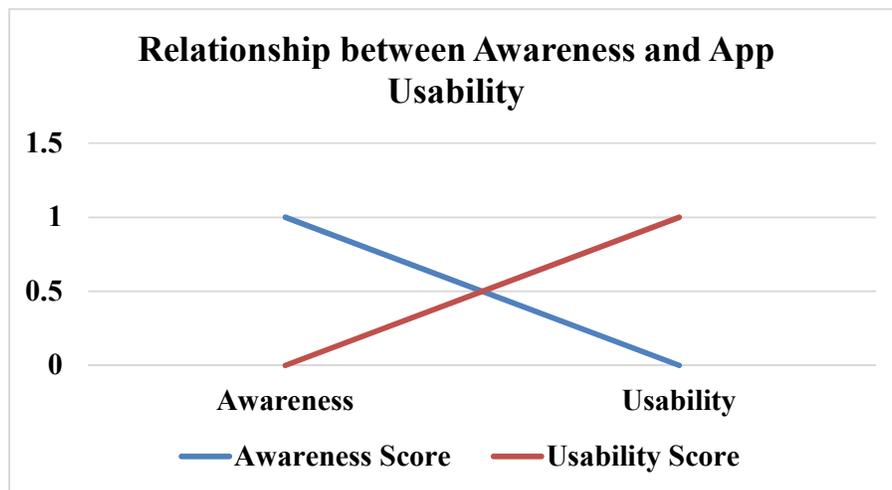
5. Conclusion

The present study examined the accessibility of the Kavalan SOS Application among college students and explored the factors influencing its effective utilisation. The findings indicate that although a majority of students demonstrate relatively high levels of accessibility and basic awareness of the application, certain gaps persist in feature-level understanding, inclusive usability, and platform compatibility. While respondents generally perceived the application as user-friendly and beneficial, moderate responses regarding responsiveness, accessibility under limited internet conditions, and usability for persons with disabilities suggest areas requiring improvement.

From a social work perspective, the study underscores the importance of integrating digital safety awareness into campus-based interventions. Social workers, educational institutions, and law enforcement agencies must collaborate to promote awareness programmes, hands-on demonstrations, and digital literacy initiatives to strengthen emergency preparedness among students. Enhancing inclusive design, improving multi-platform compatibility, and building trust in response systems are critical steps toward ensuring effective utilisation.

In conclusion, while the Kavalan SOS Application represents a significant advancement in technology-enabled emergency response, its full potential can be realized only through sustained awareness efforts, institutional engagement, and inclusive digital practices. Strengthening these dimensions will contribute to improved preparedness, empowerment, and protection among college students in higher education settings.

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