

# Impact of Political Instability on Medical and Dental Education and Student Mental Health in Lower-Middle-Income Countries: Insights from Pakistan

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DOI: <https://dx.doi.org/10.47772/IJRISS.2025.9020079>

Received: 28 January 2025; Accepted: 03 February 2025; Published: 03 March 2025

## ABSTRACT

**Objectives:** The objective of the study is to assess how political instability impacts medical and dental students' education in Pakistan's Khyber Pakhtunkhwa province. It explores for ways to determine how such instability affects students' academic performance, career choices, and psychological well-being.

**Methodology:** A cross-sectional study design was employed, targeting students enrolled in 20 medical and 10 dental colleges in Khyber Pakhtunkhwa. Convenient sampling was used to determine sample sizes of 124 students, and data was gathered via an online questionnaire that was distributed through designated focal points at each institution. To assess mental health outcomes, a customized questionnaire with components comprising the Generalized Anxiety Disorder Scale (GAD-7) and the Perceived Stress Scale (PSS) was developed. Descriptive statistics were used to analyze the data.

**Results:** The results show that while most students reported they rarely missed class because of political instability, a sizeable percentage said the continuous unrest made them reconsider their career choices. The future of Pakistan's healthcare system was a source of great concern for 79% of those surveyed, who expressed moderate to severe anxiety. Furthermore, 75% of students said they frequently thought about leaving the country in search of better prospects. High levels of stress and anxiety were found in mental health assessments; 85% of students reported feeling out of control of their life and experiencing anxiety frequently.

**Conclusion:** Students studying medicine and dentistry in Khyber Pakhtunkhwa are greatly impacted academically and mentally by the political unrest in the region. The results emphasize the necessity of targeted efforts to enhance students' psychological and academic health as well as measures to lessen the brain drain from conflict-affected areas.

**Keywords:** Political instability; Medical and dental education; Mental health; Stress; Pakistan; Conflict zone

## INTRODUCTION

Political instability has global ramifications affecting millions of individuals and governments in a variety of places, regardless of economic or political landscapes.(1, 2) These could manifest as protests, civil wars, coups, and corruption that hampers improvements in public health, education, and the economy, leading to widespread uncertainty and fear.(2) These events are seldom contained, frequently have far-reaching effects, altering global economies, population displacement, and strain international relations.(2) The Khyber Pakhtunkhwa, a province of Pakistan has been a particularly a hotbed of political unrest. This region has had numerous political transitions, civil unrest, and regional conflicts over the last few decades, all of which have reduced public trust and created an atmosphere of uncertainty.(3) The situation has further deteriorated in recent year, due to multiple reasons such growing ethnic and sectarian tensions, corruption, and ineffective

government. These factors have fueled civil conflicts and increased public mistrust.(1) In addition, the province's citizens are facing additional challenges as a result of an economic crisis that is exacerbated by rising unemployment and inflation. The country's unrest and instability continue to grow more detrimental due to the continuous divide between many political parties, each of which has its own agenda and perspectives. The growing discontent has not only impacted individuals but also students in various phases of life.

Medical education is extremely demanding and requires high level of mental efforts and cognitive functioning.(4-6) The environment in many medical and dental schools promotes competition rather than teamwork. This can lead to burnout, which permeates not only undergraduate study but also postgraduate training, internships, and even the professional practice as clinician.(4, 7) Studies have shown that the prevalence of emotional disturbance among medical students was higher than in the general population, with levels ranging from 31.2% in British universities to 41.9% in a Malaysian medical school and 61.4% in a Thai medical school.(8-10) The statistics highlight how susceptible medical students are to mental health problems, especially in demanding and unstable settings.

Political instability can also add another layer to the challenging environment. Stress level may be increased in an unstable environment, which can negatively impact students' mental health and academic performance. (11, 12) Students' mental health may further deteriorate because of ongoing threats of violence and the unpredictability of daily living. These disruptions impair students' access to necessary training and resources as well as their capacity to learn clinical skills and knowledge, which will ultimately have an impact on the standard of education for these future medical and dental professionals. (13) Studies reveal that students studying in conflict areas endure elevated levels of stress and fear, which therefore impacts their educational achievement.(14) In comparison to their counterparts in conflict-affected areas, dental students in Libya's conflict-free zones reported much greater levels of perceived stress, especially in relation to workload and faculty administration. (14) According to this research, stress factors can take many forms depending on the situation; students who attend school in safer settings can yet feel a great deal of stress from their academic obligations.(15) King Saud University survey found that over half of Saudi medical students have thought about leaving out, with academic difficulties being a major factor, especially in the first year. The study stressed the importance of intellectual and psychological support in preventing early dropout, which may be made worse by unstable political environments and consequently result in a shortage of medical professionals.(6, 7) Therefore, it is imperative to understand the impact of such conditions on students mental health and education.(11) Research indicates that students working in such zones reported inadequate education and safety concerns, prompting them to indicate to pursue their careers outside of the conflict zone.(5) This phenomenon not only jeopardizes the local healthcare system but also fuels a migration of highly qualified workers from their native nations in pursuit of better prospects outside.

While there is growing research on the direct repercussions of political unrest on education and mental health is becoming more and more prevalent, limited studies have focused on medical and dental students in Khyber Pakhtunkhwa. By thoroughly examining the effects of political instability on these students' education and mental health, our study seeks to close this gap. We hope to provide a more thorough knowledge of the difficulties experienced by medical students in politically unstable areas by going further into these topics. The results of this research will play a critical role in formulating plans to assist students and enhance learning outcomes in such demanding settings. In Khyber Pakhtunkhwa and other similar regions, we believe that our research can aid in the development of focused interventions and policies that can help lessen the detrimental consequences of political instability on medical and dental education.

## **MATERIALS AND METHODS**

The Khyber Pakhtunkhwa is the third-largest province in Pakistan by population and fourth largest by area. Medical and dental education is provided by both public and private institutions, including 20 medical colleges and 10 dental colleges, with a total enrollment of around 12,240 students per annum. Our study used a cross-sectional design to explore the effect of political instability on the education and mental health of

students enrolled in these public and private institutions. The sample size was computed using a 95% confidence level and a 5% margin of error, yielding an initial size of 384 students. Since the study wasn't financed by any institutions, it was imperative to achieve the initially proposed sample size. Therefore, the authors reassessed the sample size to ensure it remained both statistically valid and practical and concluded that a smaller, more manageable sample size of 124 was appropriate. This adjustment allowed them for more focused follow-up with participants and better use of resources, which helped maintain data integrity and participant engagement. Although the final sample is smaller, it is still representative of the target population and provides valuable insights into the impact of political instability on student education and mental health, despite the 33% response rate (124 out of 372).

The eligibility criteria included male and female students enrolled in public and private medical and dental colleges were considered eligible for the study. Political instability was operationally defined as disruptions or conflicts in Khyber Pakhtunkhwa, that have an impact on daily life. The impact was defined as the repercussions of these disruptions on students' academic and mental health in the province.

The study received ethical approval from the Bacha Khan College of Dentistry in Mardan after presenting the study objectives and describing the involvement of human subjects and was conducted from 23<sup>rd</sup> July 2024 to 2<sup>nd</sup> September 2024. Before participating, all participants gave informed consent and were made aware that their participation was voluntary. They were also informed that their information would remain confidential and not shared with anyone. The data will be presented in aggregate form, published to reach a larger audience, and shared with policymakers at the Khyber Pakhtunkhwa Department of Health to support decision making. A comprehensive literature review was conducted to identify thematic areas which helped the authors drafting a questionnaire for the study. This questionnaire was validated in a private dental college in Peshawar, and necessary adjustments were made based on its relevance and accuracy. The final version was then posted on web-based platforms, and a link was shared with students via web-based platforms. A focal point was identified in each medical and dental college, and convenient sampling methods were used. These focal points, also faculty members at their respective colleges, were provided the link for questionnaire and advised to share it with student groups using a web based cross-platform messaging service. Two reminders were sent to the focal points to encourage student participation.

The data was recorded and maintained using Microsoft Excel. Descriptive statistics was used to summarize demographic data and other important factors.

## RESULTS

### Section 1: Demographic Information

The study participants' demographic information provided a detailed overview of the demographic features. The age distribution was wide, with most participants being observed between the ages of 21 - 23, followed by those aged 18 -20, and very few over the age of 27. There was a slight skewness in the gender distribution, with a greater proportion of male responses. Although students from all academic levels participated in the study, most participants were first-year students, followed by students in their second and third years, and final-year medical and dentistry college students made up the least. The two main study fields, dentistry and medical, accounted for most respondents, with a greater proportion of participants in dentistry. There were representatives from both public and private institutions, but greater participation from public institutions was observed. A brief overview of demographic features is presented in figure 1 below.

Field of Study & Institution	Males	Females
Private Dental Institutions	8.06% (n=10)	7.26% (n=9)
Private Medical Institutions	3.23% (n=4)	4.84% (n=6)
Public Dental Institutions	33.06% (n=41)	29.84% (n=37)
Public Medical Institutions	8.06% (n=10)	4.84% (n=6)

Figure 1: Demographic features of respondents

## Section 2: Impact of Political Turmoil on Studies

The analysis regarding how political unrest affects students' education uncovered several significant findings. Over three quarters of the students indicated that they have "rarely" or "never" missed clinicals or classes because of political unrest or demonstrations. The frequency of missing classes varied, indicating the extent to which political unrest has hampered students' ability to complete their coursework.

Less than half of the students reported that political events had made them think twice reconsidering their career choice in Pakistan for medical or dental school; their answers ranged from "moderate" to "to a very large extent." This emphasizes how students' worries about whether they can afford to finish their studies in the face of political unrest are becoming more and more prevalent.

Significant apprehension was also evident in the study on the prospects of the medical field in Pakistan, as 79% of students expressed worries that ranged from "moderate" to a "very large extent."

The political climate has clearly affected students' motivation to study, as evidenced by the 43% of students who reported feeling less driven, ranging from "not motivated at all" to a "small extent." Furthermore, just 45.5% of students said they are "never" or "rarely" distracted during study sessions, indicating a considerable frequency of political diversions.

Because of the political unpredictability, a significant portion of students have thought about changing their career objectives. Of the students, 30% said they had not given their goals any thought, and the remaining students said they had thought about them "a small extent" to a "large extent."

## Section 3: Perception of the Country's Future

Given the current political climate, the respondents voiced serious concerns about Pakistan's stability in the future. Students' levels of concern varied from "Not concerned at all" to "Extremely concerned," with a significant majority (70.2%) falling into the higher categories. Concerns about their future career possibilities in Pakistan were also present; 78.5% of them thought that political unrest would negatively impact their prospects. A concise summary is provided in figure 2 below.

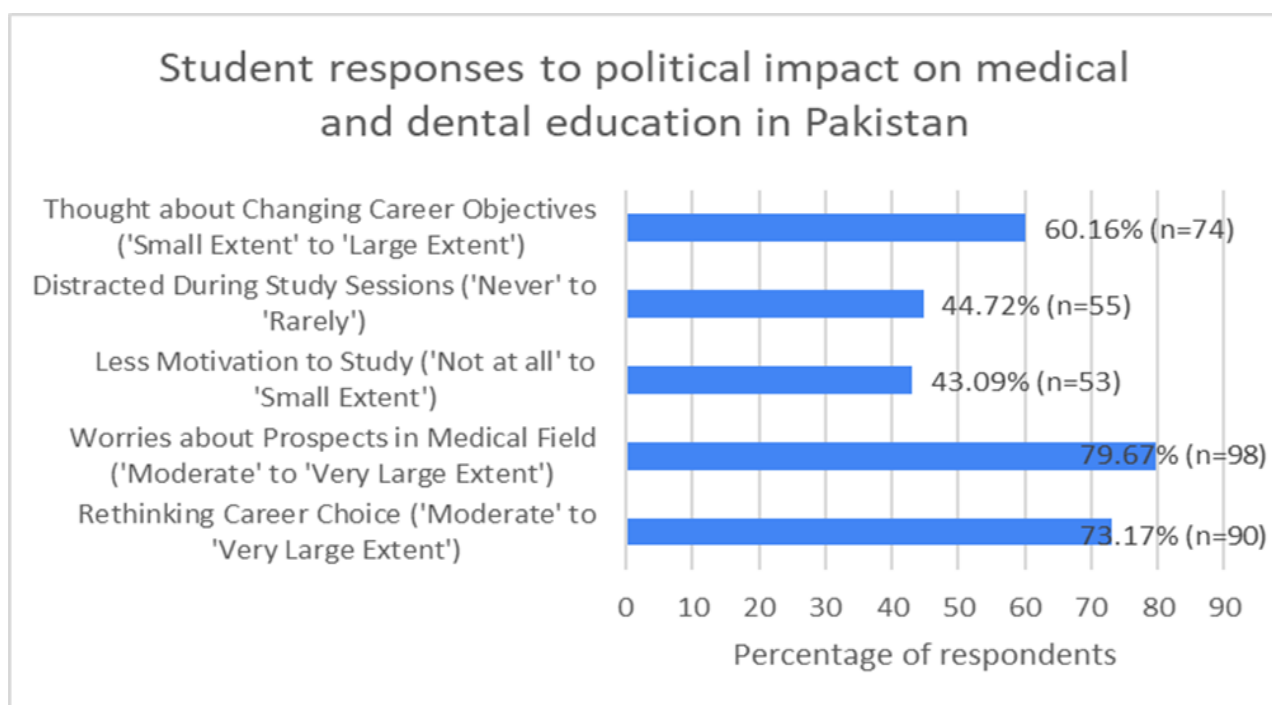


Figure 2: Students responses to political impact on medical and dental education in Khyber Pakhtunkhwa, Pakistan

A significant portion of students (75.2%) stated that they "frequently" or "always" consider leaving Pakistan in search of better possibilities. This indicates the uncertainty and anxiety they have about their future employment.

Responses varied when asked if they were optimistic about Pakistan's healthcare system going forward. 48.8% of students expressed pessimism, 28.1 expressed neutrality, and the remaining students expressed optimism regarding the future of healthcare in the country.

#### Section 4: Mental Health Assessment

The mental health examination provided insightful information about the psychological effects of political instability on students by using standardized tools including the Generalized Anxiety Disorder Scale (GAD-7) and the Perceived Stress Scale (PSS).

##### Perceived Stress Scale (PSS):

- Approximately 85% of participants expressed a lack of control over significant aspects of their lives, with responses ranging from "sometimes" to "very often."
- Of those surveyed, 75% said they experienced anxiety or stress frequently, whereas only a few said they "never" or "almost never" felt this way.
- More than 10% of the students said they didn't feel confident enough to handle personal issues.
- Most respondents indicated that they thought things were going their way "sometimes" or "fairly often," indicating a moderate level of contentment among the participants.
- Remarkably, 65% of participants expressed that they are overburdened by their responsibilities, with the most common responses being "sometimes," "fairly often," and "very often."
- Of those asked if they felt in control of their circumstances, 54.1% responded "sometimes," indicating a modest sense of control.

##### Generalized Anxiety Disorder Scale (GAD-7):

The Generalized Anxiety Disorder Scale (GAD-7) was utilized to measure the frequency of anxiety symptoms experienced by respondents over the last two weeks. The findings revealed are depicted in the figure 3 below:

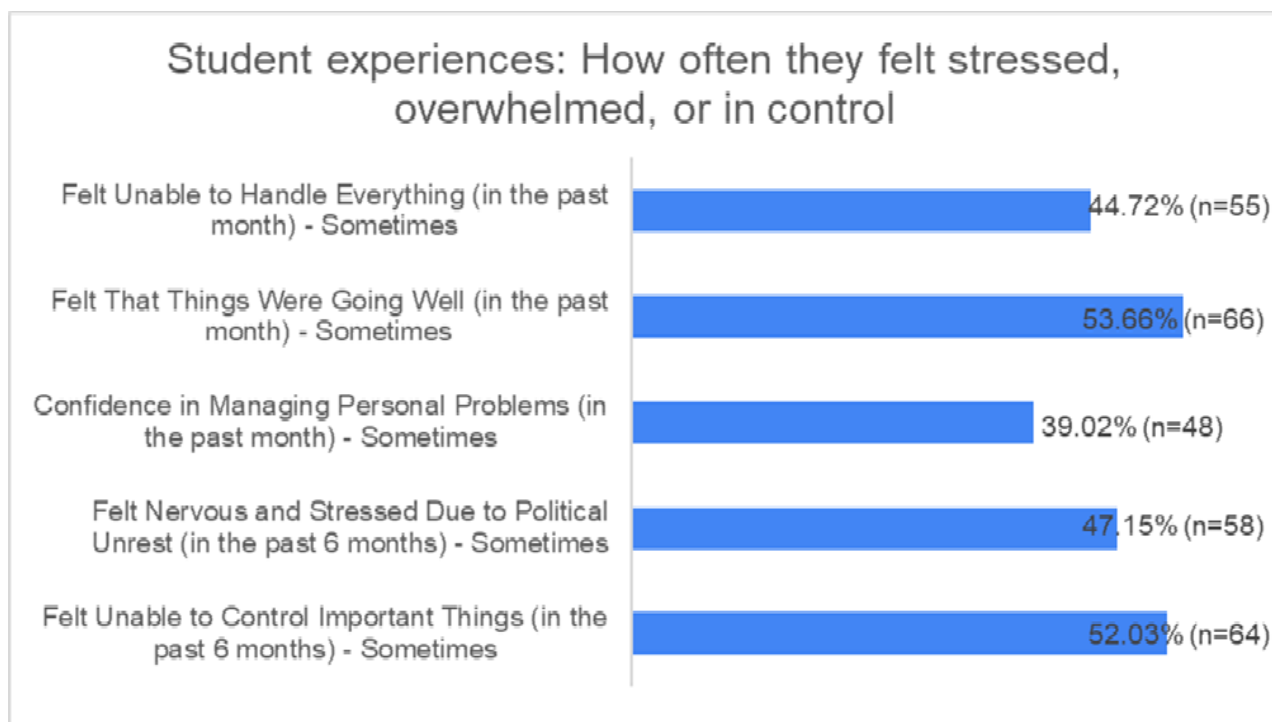


Figure 3: Student experiences: How often they felt stressed, overwhelmed, or in control



- Moreover, half of the respondents said they felt anxious, nervous, or on edge "several days" and 15.6% said they felt this way "nearly every day."
- Difficulty in stopping or controlling worry was a common issue, with 45.1% of respondents experiencing this "several days," 19.7% "more than half the days," and 20.7% "nearly every day."
- Frequent reports of excessive worrying about different issues ranged from 39.3% "several days" to 24.6% "nearly every day."
- Trouble relaxing was common; 40.2% of respondents said they had them "several days," 21.3% reported they had them "more than half the days," and 13.1% reported they had them "nearly every day."
- Restlessness, to the extent of difficulty sitting still, was commonly reported, with 20.5% reporting "more than half the days" and 35.2% reporting "several days."
- Many reports were observed of irritability or the tendency to become easily irritated; 43.4% of respondents stated this occurred "several days," 16.4% "more than half the days," and 19.7% "nearly every day."
- A significant portion of respondents felt a persistent fear that something awful might happen, with 41.8% experiencing this feeling "several days," 17.2% "more than half the days," and 13.9% "nearly every day."

These results demonstrate the respondents' high levels of stress and anxiety and the effect that outside influences have on their mental health.

## DISCUSSION

The study provides a comprehensive analysis of the demographic characteristics and the significant impact of political instability on the academic and mental well-being of medical and dental students in Pakistan. Most participants were young, male, first-year students, predominantly from public institutions, with a higher representation in dentistry.

While the current political unrest appears to have little impact on classrooms, it raises serious concerns about the future and reflects the states of mind, distrust, and potential brain drain of future healthcare professionals. It also suggests that the political climate is creating an environment of uncertainty and instability that goes beyond the classroom. Apprehension regarding future professional prospects and the possibility of negative consequences on career growth resulting from current political crises are reflected in concerns regarding the future of the medical field in Pakistan, which could worsen the country's already weakened health system and brain drain.

The uncertainty and political climate have also affected student's motivation and have reported feeling less motivated and distracted more often, and some are even thinking about changing their career aspirations. The decrease motivation and the consideration of changing careers underscore the significant influence of political uncertainty on the career goals of students and phenomenon is consistent with other studies which have shown that political and economic instability can lead to decreased career commitment among students.(5, 6) Additionally, considering a different career path reflects broader concerns about professional development and job security in a unstable environment, which may lead students to look for possibilities abroad where things may appear to be more secure. Because students may decide to relocate rather than stay in an unpredictable and unstable professional landscape, this trend exacerbates the problem of brain drain. A study conducted in Pakistan utilizing data from the World Bank, the Higher Education Commission (HEC) Pakistan, the Pakistan Medical and Dental Council (PMDC), the Bureau of Emigration and Overseas Employment (BEOS), and other sources, Pakistan's uncertain sociopolitical climate has caused a notable outflow of highly skilled individuals, undermining the country's universities, academic publications, and research output internationally.(16) Our findings also align with the proposed study highlighting that, almost half of the student's indicated uncertainty about their career decisions and worries about the state of the healthcare sector, which suggests that political unrest is affecting their professional prospects and exacerbating the problem of

brain drain in general. This demonstrates how urgently Pakistan must address political unrest and put in place long-term measures to lessen its effects on people as well as the educational and medical sectors of the country. The current economic unrest has made matters worse and made it more pressing for people to look for stability overseas.(17) Pakistan offers little incentives for people to stay because of its declining foreign reserves, declining per capita income, growing inflation, and high unemployment rate.(17) The younger population has been particularly affected by this economic downturn; in 2017, 64% of migrants were under 30 years old.(17) The political and economic unrest have made many people—including professionals and students—consider relocating abroad, which is further jeopardizing the country's chances for future growth. This emphasizes how critical it is for Pakistan to deal with the country's political and economic instability to stop the brain drain and properly support its educational and healthcare systems.(7) This situation underscores the need for targeted support to address both the immediate academic disruptions and the broader career-related uncertainties faced by students.(7) This demands a multifaceted strategy that begins with stabilizing the political and economic environment to draw in and keep highly skilled professionals who can handle these issues. Increasing research funding, expanding healthcare and higher education spending, and offering incentives to professionals and students are further steps in building upon this. Strong career advice, mental health support, and increased international collaboration are also essential.(18) By decreasing the negative impacts of the current unrest and brain drain, these actions will support the healthcare and education sectors.

Another important finding that emerged was the alarming levels of stress and anxiety reported by students. Many students indicated a profound sense of a lack of control over their lives, frequent episodes of anxiety, and difficulties in coping stress, relaxing, and managing responsibilities. These findings underline the critical need for immediate action by highlighting the serious effects of political unrest on students' mental health. The high levels of anxiety and stress that students report indicate that their psychological health is greatly impacted by political unrest. Even while they can meet their academic obligations, their ongoing anxiety and overpowering sensation of losing control point to deeper mental health issues. The psychological consequences show that political unrest has a significant negative influence on students' general well-being as well as their chances of landing a job in the future, impacting them far beyond disruptions to their studies.

These results are consistent with previous studies on the effects of political and economic instability on mental health.(19) Research has repeatedly demonstrated that political upheaval causes young individuals to experience higher levels of stress and anxiety.(19) In other situations, with protracted instability, comparable psychological discomfort patterns have been noted.(4, 20) The substantial levels of stress and anxiety highlight the need for focused mental health interventions are needed. The challenges students encounter in effectively handling their concerns and obligations might have a negative impact on their academic achievements and future employment prospects. It is imperative to incorporate mental health care into academic settings, particularly in politically unstable circumstances. Students who receive sufficient psychological tools and assistance are better able to manage their stress and continue on their academic and career paths. As the study relies on self-reported data, there is a chance that individuals will either overstate or underreport their issues with mental health. Future studies need to explore how political unrest affects students' academic performance and mental health over the long run. Analyzing the effectiveness of mental health interventions during times of unrest may offer insightful information on how to support students who are experiencing such difficulties.

## CONCLUSIONS

Based on the findings the following conclusions are drawn.

1. The study reveals a wide age range of participants, with a tendency towards male responders and a noticeable concentration of younger students, mostly from public institutions.
2. Even while most students said they only occasionally missed class because of political upheaval, a sizable portion of them changed their career choices, suggesting that political instability had a big impact on their decisions about their education and careers.

3. Due to the current political and economic environment, many students show a desire to seek better possibilities abroad, raising concerns about their future employment opportunities in Pakistan.
4. Students' views on Pakistan's healthcare system are clearly divided; almost half of them are pessimistic, which speaks to a wider lack of confidence in the industry's future.
5. Students' mental health assessments show significant levels of stress and anxiety, and they frequently report experiencing problems including excessive worrying, restlessness, and a loss of control over their life.

## Disclaimer

The views expressed in this paper represent the author's opinions based on the data collected and do not reflect the official stance or opinions of the organization they are associated with.

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