




Research Article

In the Pursuit of Research: Investigating the Difficulties Faced by Aspiring Young Researchers in Bangladesh

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Received : February 17, 2025
Accepted : April 20, 2025

Revised : March 16, 2025
Available online : May 12, 2025

How to Cite : Jubair, H., Mehenaz, M., & Islam, M. M. (2025). In the Pursuit of Research: Investigating the Difficulties Faced by Aspiring Young Researchers in Bangladesh. *COMPETITIVE: Journal of Education*, 4(2), 185-195. <https://doi.org/10.58355/competitive.v4i2.166>

Abstract. Research is a fundamental driver of academic growth, scientific innovation, and national development. However, aspiring young researchers in Bangladesh face significant barriers that hinder their engagement in scholarly activities. This study investigates the challenges encountered by high school and undergraduate students in Bangladesh in pursuing research, focusing on systemic, financial, and institutional obstacles. Using a mixed-methods approach, data were collected from students through surveys and analyzed to identify key factors impeding research participation. The findings reveal that the primary challenges include a lack of mentorship, limited access to research resources, financial constraints, and insufficient institutional support. Furthermore, the study highlights a critical gap in students' awareness of research methodologies, academic publishing processes, and funding opportunities. A significant proportion of respondents expressed difficulty in obtaining guidance from teachers or academic institutions, with many unaware of how to publish their work in reputable journals. These barriers collectively discourage students from engaging in research, ultimately limiting the country's academic progress. This study contributes to the existing literature

by providing empirical insights into the difficulties faced by young researchers in Bangladesh. The findings underscore the need for targeted policy interventions, including the integration of research training into curricula, financial support programs, mentorship initiatives, and improved access to academic resources. By addressing these challenges, educational institutions and policymakers can foster a research-friendly environment that nurtures the next generation of scholars.

Keywords: Research in Bangladesh; young students; Bangladesh; barriers and challenges; High school students;

INTRODUCTION

Research is an essential pillar of academic growth, scientific discovery, and national progress. It fosters innovation, critical thinking, and problem-solving skills, equipping individuals with the necessary tools to address societal challenges. The role of research is particularly significant in developing countries like Bangladesh, where a strong academic and scientific foundation can drive economic growth, technological advancements, and policy reforms (Ackoff, 1968). However, despite its importance, the research ecosystem in Bangladesh remains underdeveloped, with aspiring young researchers facing substantial obstacles in their pursuit of scholarly inquiry. These barriers stem from systemic deficiencies in the education system, lack of institutional support, financial constraints, and limited access to academic resources (Dadipoor et al., 2019).

The early engagement of students in research is widely recognized as a crucial factor in fostering a culture of inquiry and innovation (Hawke et al., 2018). Studies have shown that when students are introduced to research methodologies and encouraged to participate in academic projects at a young age, they develop stronger analytical skills, a deeper understanding of their disciplines, and an increased ability to contribute to knowledge generation (Greenhow et al., 2009). Despite these benefits, high school and undergraduate students in Bangladesh often struggle to navigate the research process due to inadequate mentorship, scarce opportunities for hands-on research, and a lack of exposure to the broader academic community (Nguyen et al., 2019).

In Bangladesh, the absence of a structured research framework within secondary and higher education further exacerbates these challenges. Unlike many developed nations where students are provided with research training, access to scientific literature, and mentorship opportunities from an early stage, students in Bangladesh frequently lack these foundational experiences (Austin, 2002). The situation is particularly dire for students from rural and underprivileged backgrounds, who often have no access to research guidance or resources. Furthermore, the financial burden associated with conducting research, including costs for laboratory materials, journal subscriptions, and conference participation, discourages many students from engaging in scholarly activities (DeWitt et al., 2013).

Another critical issue is the lack of awareness regarding research publication. Even when students successfully complete research projects, they often struggle to publish their findings due to limited knowledge about academic publishing, high

article processing charges, and the absence of institutional support for publication efforts (Sadowsky et al., 2022). Without proper guidance, many promising research endeavors remain unpublished, limiting their impact on both the academic community and society.

This study seeks to investigate the specific challenges faced by young aspiring researchers in Bangladesh. By identifying the key barriers, ranging from inadequate mentorship and financial constraints to publication difficulties and institutional shortcomings, this research aims to provide valuable insights into the structural issues hindering research engagement. The findings will be instrumental for educators, policymakers, and academic institutions in designing targeted interventions to support young researchers and create a more inclusive and research-friendly environment.

By adopting a systematic approach to understanding these challenges, this study contributes to the broader discourse on academic development in Bangladesh. It underscores the need for policy reforms, institutional improvements, and enhanced research training programs to equip the next generation of scholars with the skills and resources necessary for impactful research. Ultimately, fostering a robust research culture among young students is crucial for Bangladesh's long-term academic and socio-economic development.

RESEARCH METHODS

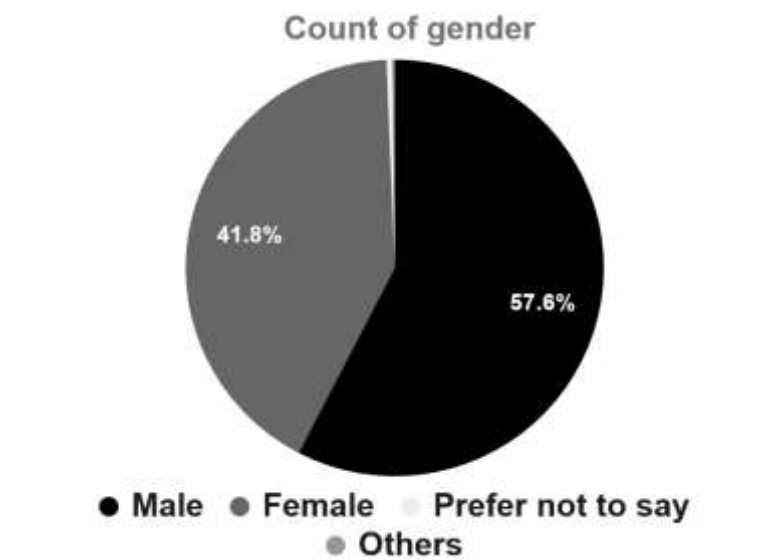
The study involved a convenience sample of young students in Bangladesh who were interested in research activities. Participants were recruited through social media platforms and email invitations. The inclusion criteria for the study were: (1) being a Bangladeshi student studying in either high school or university, and (2) expressing an interest in research activities.

The data were collected through an online survey using Google Forms. The survey was designed to gather information on participants' demographic characteristics, research motivations, the impact of a successful role model on their motivation to do research, and perceptions of the value of research for their future goals. The survey consisted of 8 questions in total, including multiple-choice questions, and rating scales. The data was collected between April 3 and April 8. Prior to the survey, the participants were provided with information about the purpose of the study and gave voluntary consent to participate.

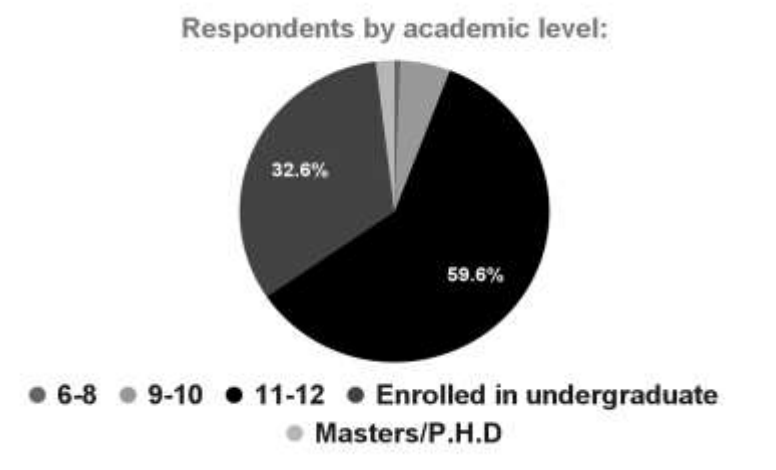
Ethical considerations were taken into account during the study. To ensure participant confidentiality and anonymity, participants were informed that their responses would be kept confidential and that their data would only be used for research purposes. The survey was also voluntary and participants were informed that they could withdraw from the study at any time without any negative consequences. An online consent form was required for participating in this study. Other ethical issues (eg, the purpose of the study, participants' right to decline to participate or withdraw from participation, data confidentiality, etc.) were followed as per the Helsinki Declaration of 2013 as suggested by the World Medical Association.³

RESULTS

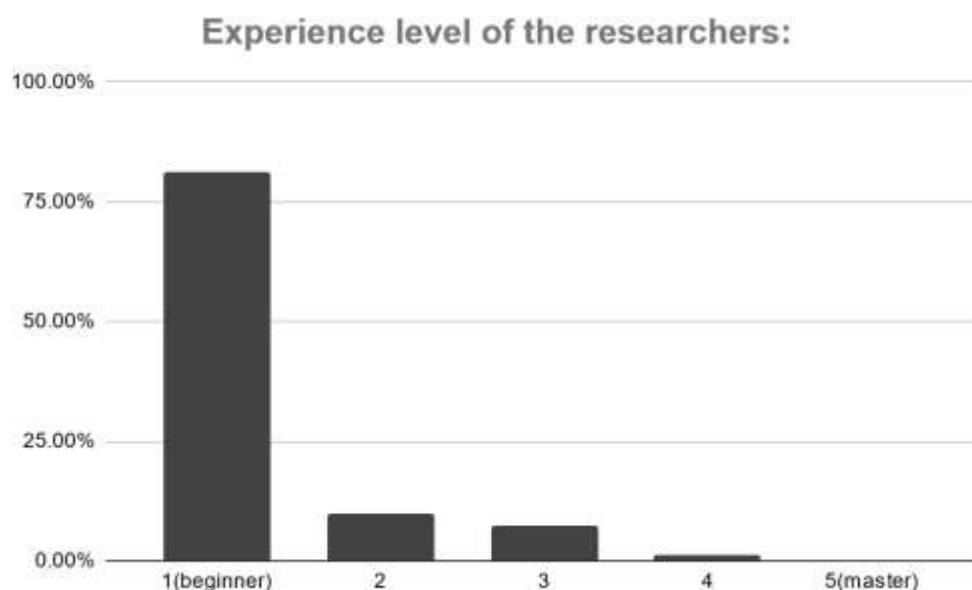
The gender distribution of the 467 respondents was fairly balanced with 57.6% being identified as male, while 41.8% were identified as female. 2 preferred not to disclose their gender while only 1 was identified as "other."



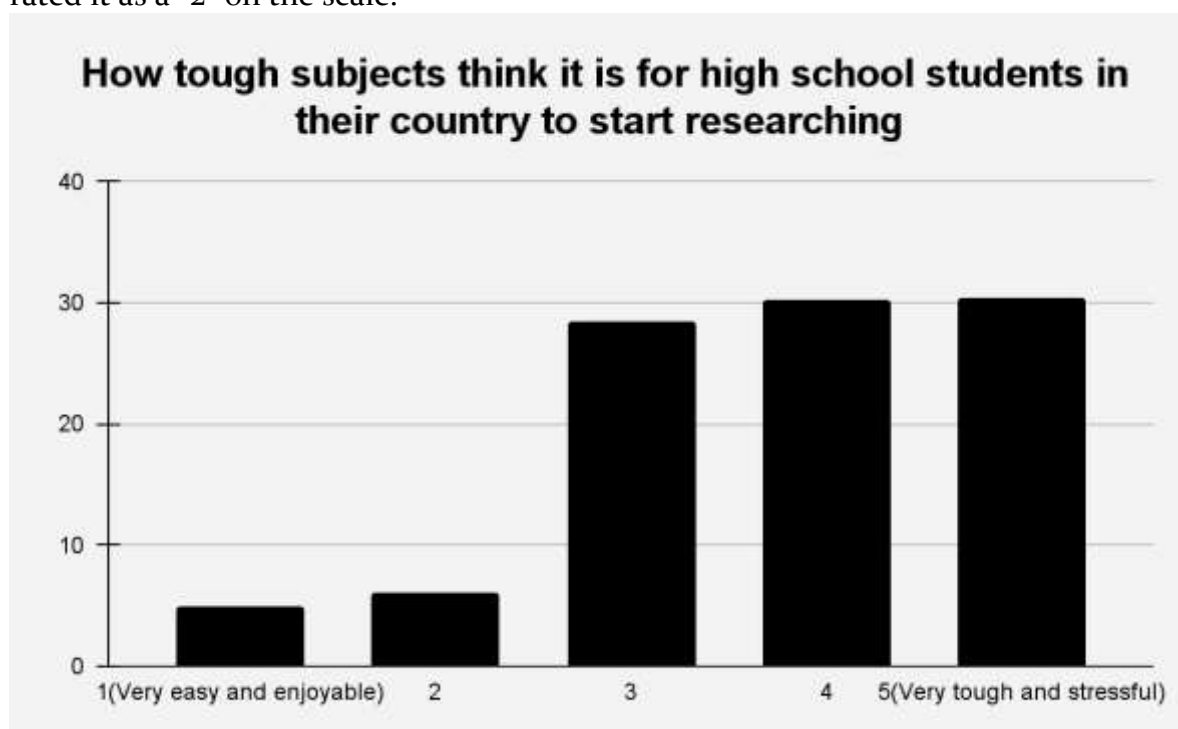
The distribution of respondents by academic level in the study was as follows: 59.6% were in grades 11-12, 36.2% were enrolled in undergraduate programs, only 0.6% were in grades 6-8, 5.2% were in grades 9-10, and 1.9% were in Masters or Ph.D. programs.



The majority of the respondents (81.15%) identified themselves as beginners in terms of their research experience. A smaller proportion of respondents (10.06%) identified as level 2 out of 5 on the scale, while 7.49% identified as level 3. Only a very small percentage of respondents (1.07%) identified as level 4, and an even smaller percentage (0.21%) identified as masters in terms of their research experience.

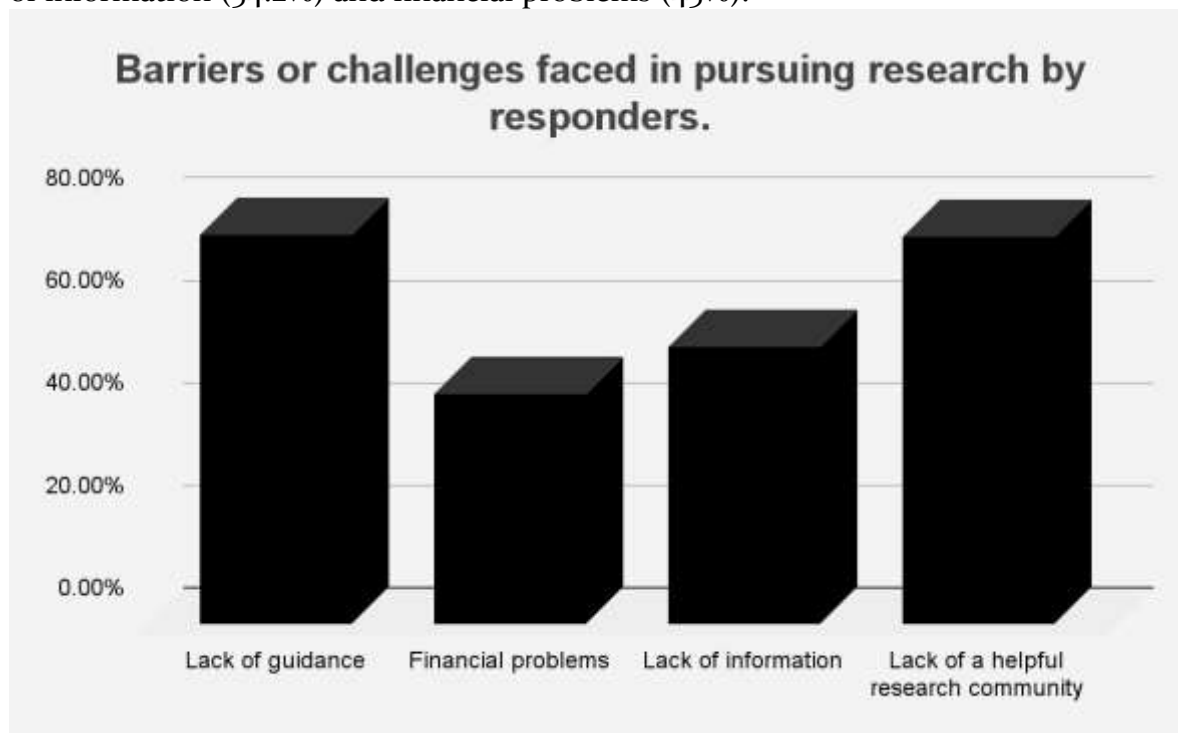


30.4% of respondents rated starting research as "very tough and stressful," for high school students in their country while 30.2% rated it as a "4" on the scale, indicating that it is still quite difficult. On the other hand, only 4.9% of respondents rated the difficulty level as a "1" (very easy and enjoyable), and 6% of respondents rated it as a "2" on the scale.

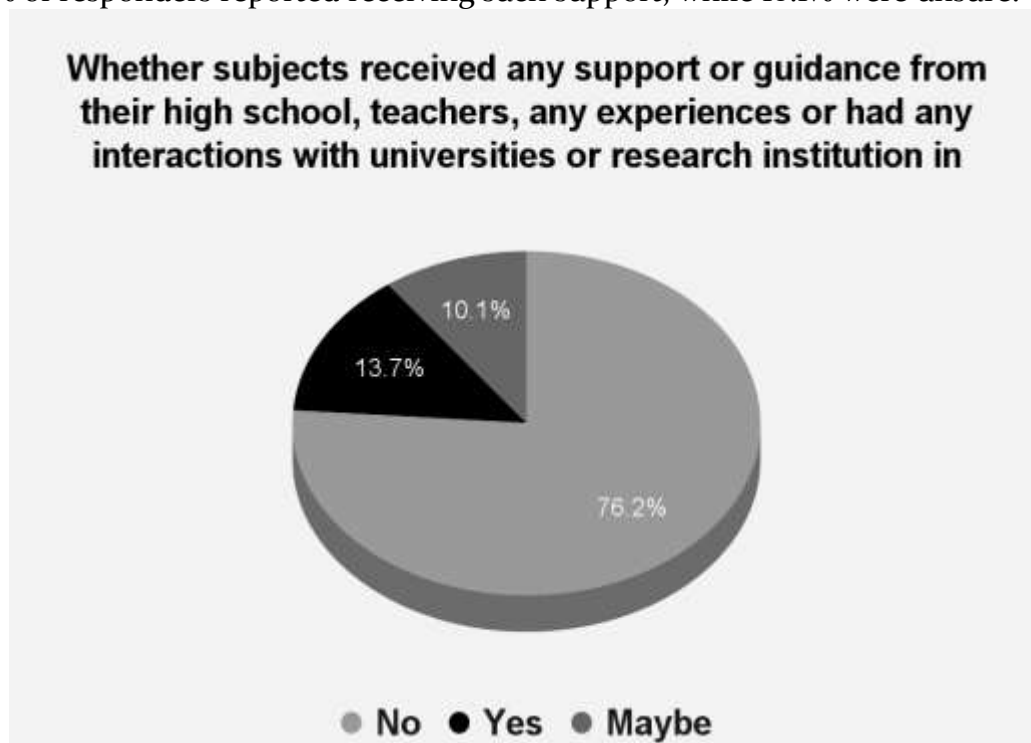


The majority of responders (76.2%) reported that lack of guidance was a barrier or challenge they faced in pursuing research, while 75.8% reported the lack of a

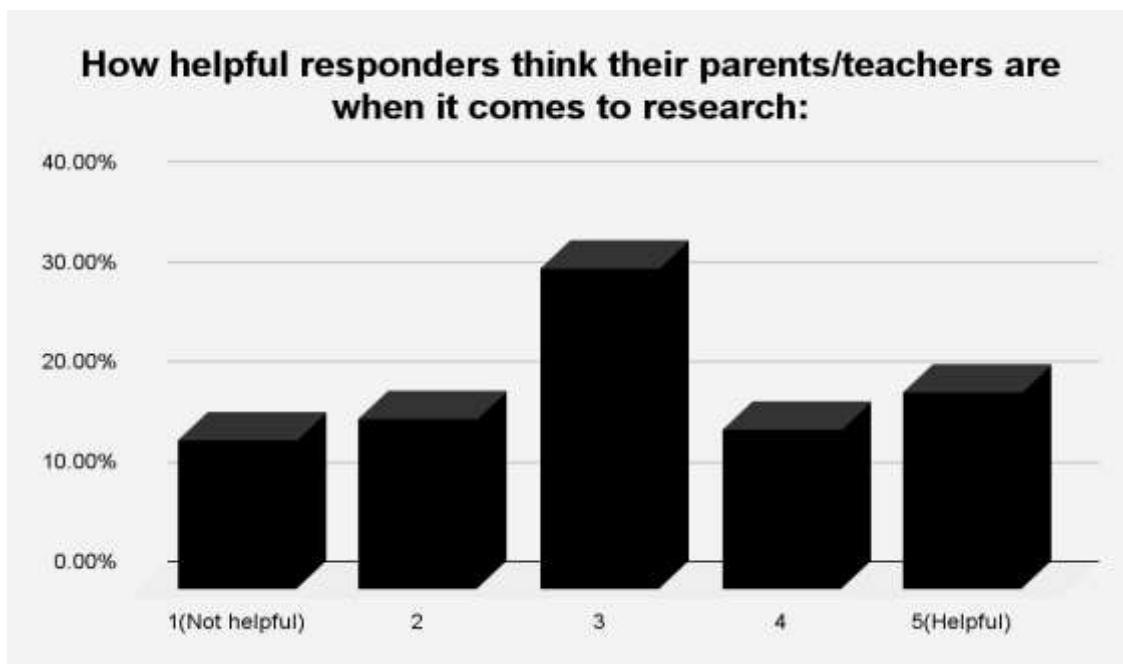
helpful research community as a challenge. Other challenges reported included lack of information (54.2%) and financial problems (45%).



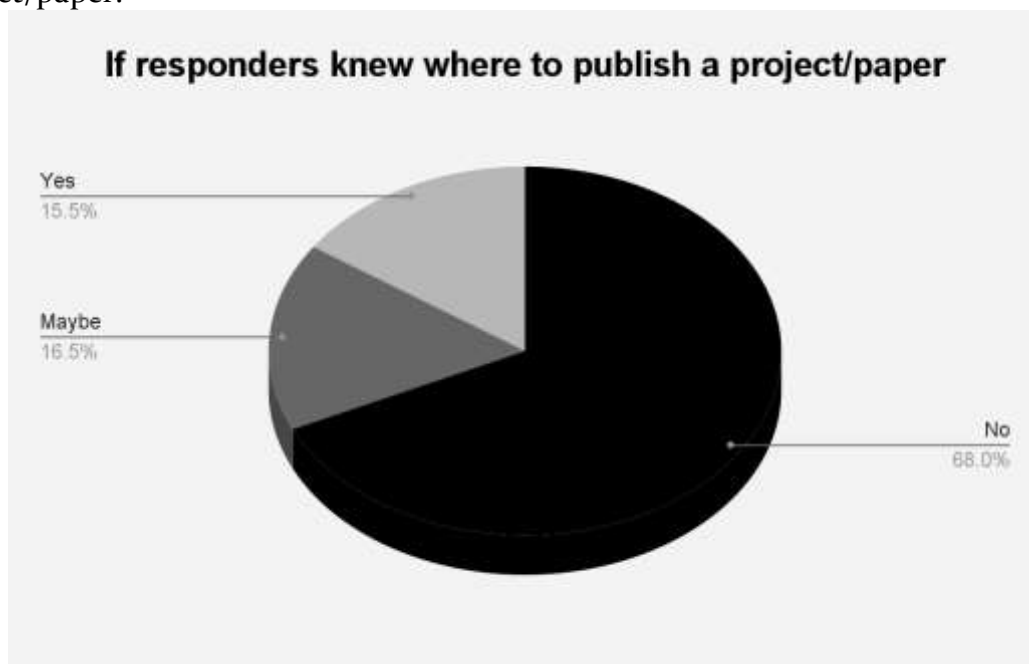
The majority of responders (76.2%) reported that they did not receive any support or guidance from their high school, teachers, or any experiences or interactions with universities or research institutions in pursuing research. Only 13.7% of responders reported receiving such support, while 10.1% were unsure.



When asked about the helpfulness of their parents/teachers in regard to research, the most common response was a rating of 3 (32.1%). 19.7% of responders rated their parents/teachers as very helpful (5), while 15% rated them as not helpful (1).



Regarding knowledge of where to publish a project/paper, only 15.5% of responders reported knowing where to publish, while 16.5% were unsure. The majority of responders (68%) reported not knowing where to publish their project/paper.



DISCUSSION

The present study aimed to investigate the difficulties faced by high school and undergraduate students in Bangladesh in pursuing research. The results indicate that a lack of guidance and an absence of a supportive research community were the most frequently reported barriers, with 76.2% and 75.8% of respondents citing these issues, respectively. These findings align with previous studies that have identified similar obstacles in other developing countries, where the absence of structured mentorship and institutional support significantly hinders early-stage researchers (Dadipoor et al., 2019). The importance of early engagement in research has been widely recognized, as it helps students build analytical skills, fosters innovation, and contributes to the academic knowledge base (Hawke et al., 2018). However, without proper support systems, students struggle to transition from interest in research to active participation in scholarly activities.

Beyond the lack of guidance, other barriers include limited access to essential research resources such as academic journals, databases, and laboratory equipment. Many students, particularly those from underprivileged backgrounds, find it difficult to access high-quality literature and technological resources necessary for conducting meaningful research (Sadowsky et al., 2022). Additionally, financial constraints present another major obstacle, as research often requires funding for materials, software, and publication fees. The financial burden discourages students from engaging in research, limiting their ability to contribute to academic discourse (DeWitt et al., 2013).

Another significant challenge is the lack of awareness regarding research methodologies and publication opportunities. The study found that 68% of respondents did not know where or how to publish their research. This suggests a substantial gap in training, as students are often not exposed to the academic publishing process or the importance of disseminating their findings (Austin, 2002). Without proper training in research ethics, peer-review processes, and manuscript preparation, many students remain excluded from the global academic community, further exacerbating their difficulties in research participation.

Interestingly, only 13.7% of the respondents reported receiving any support or guidance from their educational institutions, teachers, or research mentors. This highlights a significant institutional shortcoming, as schools and universities should play a crucial role in fostering research engagement (Nguyen et al., 2019). The findings underscore the urgent need for targeted interventions, such as integrating research training into the curriculum, providing mentorship programs, and offering research-based extracurricular activities. Additionally, structured workshops and seminars can be instrumental in equipping students with the knowledge and skills required for independent research.

Furthermore, the role of family and educators in encouraging research was found to be mixed. While 32.1% of respondents rated their parents and teachers as moderately helpful, only 19.7% found them to be highly supportive. This suggests that

awareness and training for educators and parents on how to guide students in research are necessary to build a more encouraging academic environment.

Overall, this study highlights the pressing need for institutional, financial, and educational reforms to support young researchers in Bangladesh. Addressing these challenges requires a collaborative effort from policymakers, educators, and academic institutions. Governmental support in the form of research grants and scholarships can alleviate financial burdens, while mentorship programs and accessible research infrastructure can bridge the knowledge gap. The findings of this study serve as a call to action to create a sustainable research ecosystem that empowers the next generation of scholars and fosters academic innovation in Bangladesh.

CONCLUSION

This study sheds light on the significant challenges that aspiring young researchers in Bangladesh face, revealing a research ecosystem that remains largely underdeveloped for students. A lack of mentorship, financial constraints, limited access to academic resources, and an absence of structured guidance on research publications create major barriers that discourage many from pursuing research seriously. The findings indicate that while students show a strong research interest, they often struggle to navigate the complexities of academic work without adequate support.

One of the most pressing issues identified is the absence of mentorship and institutional support. Many students do not receive guidance from their teachers or universities, leaving them uncertain about where to begin or how to improve their research skills. Without experienced mentors, students find it difficult to develop research methodologies, access relevant literature, or receive constructive feedback on their work. Additionally, financial barriers prevent many from engaging in research, as accessing journals, purchasing materials, or covering publication fees can be expensive. This lack of financial assistance discourages students from fully committing to research, particularly those from less privileged backgrounds.

Furthermore, the study highlights a critical gap in awareness about research publications. The majority of respondents were unfamiliar with where and how to publish their work, which limits their ability to contribute to academic discussions and gain recognition for their efforts. Without clear pathways for dissemination, much of the promising research conducted by students remains unpublished and unrecognized. This not only impacts individual researchers but also slows down the overall progress of scientific inquiry in the country.

Despite these challenges, the enthusiasm among young researchers remains strong. Many students express a genuine passion for research and a desire to contribute to the academic world. However, without systematic changes, this enthusiasm risks being stifled by the barriers they face. Addressing these issues requires a collaborative effort from academic institutions, policymakers, and educators. Universities and schools must integrate research training into their curricula, ensuring that students receive hands-on experience and mentorship from an early stage. Additionally, financial support in the form of scholarships, grants, and fee waivers for research publications can help alleviate the economic burden on

students. Creating research communities and networking platforms can also provide students with the necessary guidance and motivation to continue their research journey.

Ultimately, fostering a strong research culture in Bangladesh is essential for long-term academic and technological progress. Investing in young researchers is not just about supporting individual students is about empowering the next generation of innovators, problem-solvers, and thought leaders who will shape the country's future. By implementing structured mentorship programs, financial assistance initiatives, and accessible research publication platforms, Bangladesh can create an environment where young researchers thrive. The findings of this study serve as a call to action for all stakeholders, educators, policymakers, and research institutions to work together in building a sustainable, inclusive, and supportive research ecosystem.

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