Bridging the BAME Divide: Unveiling the Impacts of Covid-19 on Ethnic Minority Students and Empowering Change—A Case Study at the Open University

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***Abstract*—This study investigates the evolving impact of COVID-19 on the learning experiences and study performance of ethnic minority students enrolled in Level 1 Computing modules at the Open University. A mixed-methods approach combining quantitative data analysis, literature review, and two focus groups was employed to provide fresh insights. Findings from the literature and focus groups highlight persistent challenges faced by ethnic minority students, including economic disadvantage, digital divide, housing instability, employment difficulties, family responsibilities, mental health issues, racism, discrimination, and unconscious bias. Importantly, this study reveals the dynamic nature of these challenges, illustrating how they have evolved throughout the ongoing pandemic. The study underscores the pivotal role of structural and institutional factors in shaping students' ever-changing experiences. In response to these dynamic challenges, recommendations include targeted interventions, policy revisions that reflect the shifting landscape, innovative community-building initiatives, a renewed focus on diversity promotion, enhanced support services, unconscious bias training, and revised tuition strategies. Addressing these dynamic challenges is crucial for fostering equitable educational opportunities and outcomes for ethnic minority students. This research significantly contributes to promoting equality, inclusivity, and a more comprehensive understanding of the ever-evolving experiences of ethnic minority students during the pandemic and beyond.**

***Keywords*—awarding gap, Black, Asian, and Minority Ethnic (BAME), COVID-19, ethnic minority students, study experiences**

I. Introduction

The outbreak of the COVID-19 pandemic in late 2019 unleashed unprecedented challenges that reverberated throughout the global education landscape [1]. As educational institutions worldwide grappled with sudden closures, shifting to remote learning, and adapting to ever-changing health guidelines, the pandemic's impact on students became a subject of paramount concern [2]. Among the diverse student populations affected, the experiences and academic performance of Black, Asian, and Minority Ethnic (BAME[1]) students emerged as a focal point for research and policy discussions [3]. Understanding the unique challenges faced by BAME students during the COVID-19 pandemic is essential, not only from a social justice perspective but also for the broader goal of promoting equitable and inclusive education systems [4]. Historically, BAME students have encountered disparities in access to education, achievement gaps, and systemic barriers that have long persisted in educational institutions [5]. The COVID-19 pandemic has highlighted and exacerbated pre-existing disparities and inequalities faced by individuals from BAME backgrounds [6]. Our literature review is undertaken with the recognition that the COVID-19 pandemic has not affected all students equally. BAME students often contend with a complex interplay of factors, including socioeconomic inequalities, digital access disparities, mental health challenges, and the disproportionate impact of the virus on their communities. Consequently, examining the existing body of literature regarding the pandemic's impact on the academic performance and study experiences of BAME students is crucial for several reasons. It's crucial for understanding their pandemic-related experiences, informing targeted support, addressing research gaps, and promoting equitable education. Ultimately, this review aims to contribute to inclusive policies and resilient education systems.

This study aims to investigate the impact of COVID-19 on the study experiences and degree awarding gap of BAME students, focusing on those enrolled in Open University (OU) Level 1 Computing modules as a case study. By examining the existing literature and considering the implications for student attainment, this research seeks to understand the specific challenges faced by BAME students and explore potential opportunities to mitigate these inequalities. The degree awarding gap, which refers to disparities in academic outcomes between students from white ethnic backgrounds and those from BAME backgrounds, has been a persistent issue in higher education [7–10]. Previous research revealed significant disparities in the proportion of students achieving top degree classifications. Notably, BAME students at the Open University were found to be 20% less likely to achieve excellent grades [11]. Furthermore, the COVID-19 pandemic has disproportionately affected BAME communities in terms of health risks [12, 13], economic disadvantage [8, 14, 15], housing instability [12], employment difficulties), and mental health impacts [16].

This study employs a mixed-methods approach, combining quantitative data analysis and qualitative insights from focus groups with tutors and key stakeholders. The quantitative analysis examines the performance and progression patterns of BAME students in Level 1 Computing modules, utilizing data from the Open University COVID-19 dashboard and previous research at the OU [11]. The focus groups provide

[1]This information is drawn from self-designations of ethnicity on enrolment forms. The acronym BAME may not be a preference of all students designated as BAME by the institution (https://www.bbc.co.uk/news/uk-53194376)

valuable insights into the lived experiences of BAME students during the pandemic, addressing factors such as economic disadvantage, the digital divide, housing conditions, employment, and the impact of racism and discrimination [8, 12–16].

This research has practical implications for educators and institutions seeking to support and enhance the academic experiences of BAME students [17]. By understanding the specific challenges faced by BAME students and addressing the structural factors contributing to inequalities, targeted interventions and support strategies can be developed to promote equality and inclusivity in higher education [13]. The study also contributes to the existing literature by providing a comprehensive understanding of the impact of COVID-19 on BAME students' study experiences and performance within the context of Open University Level 1 Computing modules [11].

A. Background and Literature Review

The degree awarding gap between students from BAME backgrounds and white students has been a longstanding issue in the UK. While this disparity existed before the COVID-19 pandemic, the outbreak has exacerbated and exposed the preexisting ethnic inequalities in various domains, including health, employment, and education. This section provides an overview of the existing literature on the degree awarding gap and its implications for student attainment. It also explores the disproportionate impact of COVID-19 on BAME individuals and communities, emphasizing the higher risks of exposure to the virus and the resulting poorer health outcomes experienced by BAME populations. Additionally, this section discusses the multifaceted social and economic factors contributing to these disparities, such as economic disadvantage, the digital divide, housing conditions, employment disparities, racism, discrimination, and mental health issues.

The COVID-19 pandemic worsened existing disparities in degree attainment between BAME and white students [6]. The degree awarding gap, which existed prior to the pandemic, remains a significant issue [8, 9]. BAME individuals face higher health risks from COVID-19 due to pre-existing structural conditions, not solely genetic factors [12, 14]. Economic disadvantage, the digital divide, housing, employment disparities, racism, discrimination, and mental health contribute to the disproportionate impact of COVID-19 on BAME individuals [8, 12, 13].

Universities, including the Open University, have a crucial role in mitigating these inequalities by addressing the digital divide and actively promoting inclusivity [13]. This research project focuses on investigating the impact of COVID-19 on the academic performance and study experiences of BAME students at the Open University, aligning with institutional priorities of equality, diversity, and inclusion [6].

B. Opportunities to Mitigate Inequalities

Universities, including the Open University, can play a vital role in addressing and mitigating inequalities. Data-driven approaches, early interventions, and targeted support are key in addressing the specific needs of BAME students [16]. Online learning environments offer opportunities to create equitable experiences and challenge stereotypes [13]. Inclusive curriculum content and supportive learning environments foster a sense of belonging for BAME students [16]. By embracing these opportunities, higher education institutions can promote equality and diversity.

C. Unique Aspects of the Study

The Open University's unique context as a distance learning institution is crucial in understanding the experiences of BAME students during and beyond the COVID-19 pandemic. BAME students at the Open University have distinct experiences, as their studies are integrated with their everyday lives as home-based learners. This differs from the experiences of students at traditional brick universities. Additionally, exploring the experiences of students from brick universities who transitioned to distance learning during the pandemic provides valuable insights into the experiences of BAME students in different educational settings.

D. Aims, Objectives, and Institutional Priorities

The aims of the research project are to investigate the impact of COVID-19 on BAME students' academic performance and study experiences at the Open University, specifically focusing on computing modules at the core level. The objectives include gaining a comprehensive understanding of the factors contributing to the degree awarding gap, assessing the impact of COVID-19 on BAME students' academic achievements and study experiences, developing predictive models to forecast the long-term effects of COVID-19 on BAME students, and sharing research findings and good practices within the field of Computing and Communications. The project aligns with the institutional priorities of promoting equality, diversity, and inclusion, improving the learning experience of all students, and understanding the impact of the pandemic on teaching and learning. The themes identified in the literature review form the basis for our Research Objectives (ROs) and justify the need for this approach.

- RO1. Understanding the degree awarding gap: Given the persistent disparities in degree attainment discussed in the literature, our first objective is to examine how the degree awarding gap manifests in the context of Open University Level 1 Computing modules, particularly among BAME students.
- RO2. Assessing the impact of COVID-19: The literature review highlights the disproportionate impact of COVID-19 on BAME communities. We aim to assess how this impact specifically affects BAME students' academic achievements and study experiences within our chosen context.
- RO3. Identifying contributing factors: Drawing from the social and economic factors identified in the literature, we aim to identify which of these factors are most salient in influencing the educational experiences of BAME students during and beyond the pandemic.
- RO4. Predictive modeling for long-term effects: Given the potential long-term repercussions of the pandemic on education, our research seeks ultimately to develop predictive models that forecast how the experiences of BAME students may evolve in the post-pandemic era.

II. Methodology

To address the issues highlighted in the literature review

and gain insights into the impact of COVID-19 on BAME students' academic performance and study experiences, our research employs a mixed-method approach. This approach, as proposed by Creswell and Plano Clark [18] in their book "Designing and Conducting Mixed Methods Research," captures the perspectives of both students and key stakeholders regarding the impact of COVID-19, with a specific focus on BAME students, while also considering its implications for future pandemics. The advantages of this approach, as outlined in Creswell and Creswell [19] and Johnson [20], lie in its capacity to offer a holistic understanding, serving as a valuable reference point for future crises, by integrating numerical insights from Data and Student Analytics and the COVID-19 impact dashboard with the lived experiences and perspectives of students and key stakeholders. The quantitative component, aided by time series analysis and correlation techniques through computer simulations [19], enables the identification of trends and patterns, while the qualitative aspect delves into the 'why' behind these trends [21]. Additionally, a comparative study of students' demographics aids in early identification of areas with poor attainment, informing the development of targeted contingency plans. Moreover, in light of the experiences with COVID-19, this research aims to contribute insights into how educational institutions can better prepare for and counteract the negative impacts of future pandemics. By exploring the strategies and adaptations made during the COVID-19 crisis, we seek to inform proactive planning and response measures. This forward-looking perspective underscores the broader relevance of the study and its potential to guide policy and institutional changes, ensuring resilience in the face of unforeseen challenges beyond the COVID-19 pandemic. This mixed-method framework aligns with the research objectives, offering a robust means of examining the multifaceted impact of COVID-19 on BAME students' educational experiences and outcomes, while also shedding light on strategies for building resilience and adaptability in future pandemics.

III. Quantitative Analysis of COVID-19's Impact on BAME Student Attainment: Unveiling Disparities at the Open University

The methodology involved a systematic approach encompassing data collection, cleaning, analysis, and modeling. Data was collected on the awarding gaps for different ethnic groups at the Open University, as well as COVID-19 cases and other factors impacting academic performance. The dataset included information on academic year, course level, BAME student status, ethnic group, and course completion and passing percentages. After cleaning the data, a hierarchical analysis was conducted, starting at the institutional level and narrowing down to cross-faculty analysis, with a particular focus on Level 1 computing modules.

At the institutional level, the analysis revealed a decline in completion and pass rates for all ethnic groups from 2019/20 to 2020/21, with non-BAME students exhibiting higher rates compared to BAME students. Pass and completion rates generally increased as the academic level progressed, with slightly higher rates observed for non-BAME students. In the cross-faculty analysis, slight differences in completion and pass rates were found between BAME and non-BAME students, with non-BAME students generally having slightly higher rates.

Further analysis specifically focused on Level 1 computing modules. The findings indicated lower pass and completion rates for BAME students compared to their non-BAME counterparts. Additionally, disparities were observed among different ethnic groups within the BAME category. Asian students displayed the highest completion and pass rates, while Black students had relatively lower rates compared to other ethnic groups. Mixed and Gypsy students demonstrated completion and pass rates of 50% or above.

These findings highlight the need for additional investigation into the underlying reasons for disparities and the identification of potential barriers or biases that may impact the academic performance of certain ethnic groups. Addressing these disparities is crucial for promoting equitable outcomes and enhancing academic success for all students, irrespective of their ethnic backgrounds.

The analysis employed a comprehensive approach, considering various factors such as COVID-19 impact, ethnic groups, course levels, and student characteristics. The insights gained from this study contribute to a better understanding of the challenges faced by BAME students during the COVID-19 pandemic and beyond. The findings can inform evidence-based interventions and strategies to promote inclusivity, support student attainment, and develop contingency plans for future challenges.

A. Institutional Analysis

In Table 1, an institutional analysis of the provided data for the academic years 2019/20 and 2020/21 reveals distinct trends in completion rates. In 2019/20, completion rates were higher across all ethnic groups, with non-BAME students achieving 75.2%. However, in 2020/21, completion rates declined for all ethnic groups, with non-BAME students reaching 70.5%.

Table 1. Institutional pass rate and completion rate for BAME and non-BAME students at the OU during the pandemic

Academic year & Ethnic group	No. reg @ 25% FLP (aka day 14)	No. complete	% complete	No. passed	% passed
2019/20 non-BAME	120,239	90,412	75.2	88,541	73.6
2019/20 BAME	14,280	10,436	73.1	9,930	69.5
2020/21 non-BAME	143,454	101,170	70.5	98,323	68.5
2020/21 BAME	16,439	11,229	68.3	10,497	63.9

When examining completion rates by ethnic group specifically in 2020/21, non-BAME (White) students maintained a completion rate of 71.7%. On the other hand, among BAME students, completion rates varied across ethnic groups. Asian students displayed the highest completion rates, at 70.9%, while Mixed, Black, and Gypsy students exhibited lower completion rates, at 66.9%, 65.5%, and 64.8%, respectively.

Notably, there was a noticeable gap in completion rates between BAME students and their White counterparts in both academic years. BAME students consistently displayed lower completion rates, highlighting a disparity in academic outcomes compared to White students.

B. Level Analysis

The representation of BAME students across different academic levels remained relatively consistent between the two academic years. In 2019/20, the percentage of BAME students ranged from 7.12% at Level 0 to 10.96% at Level 3. Similarly, in 2020/21, the percentage of BAME students ranged from 5.56% at Level 0 to 11.02% at Level 3.

When examining the pass rates in Fig. 1, it was observed that as students progressed to higher academic levels, both BAME and non-BAME students generally experienced an increase in pass rates. In 2019/20, BAME students had pass rates ranging from 61.1% at Level 0 to 77.6% at Level 3. In 2020/21, BAME students had pass rates ranging from 52.8% at Level 0 to 69% at Level 3. Non-BAME students, on the other hand, had pass rates ranging from 58.9% at Level 0 to 82.9% at Level 3 in 2019/20, and 46.4% at Level 0 to 75.7% at Level 3 in 2020/21. Although BAME students had slightly lower pass rates compared to non-BAME students, both groups showed an overall improvement in pass rates as the academic level increased.

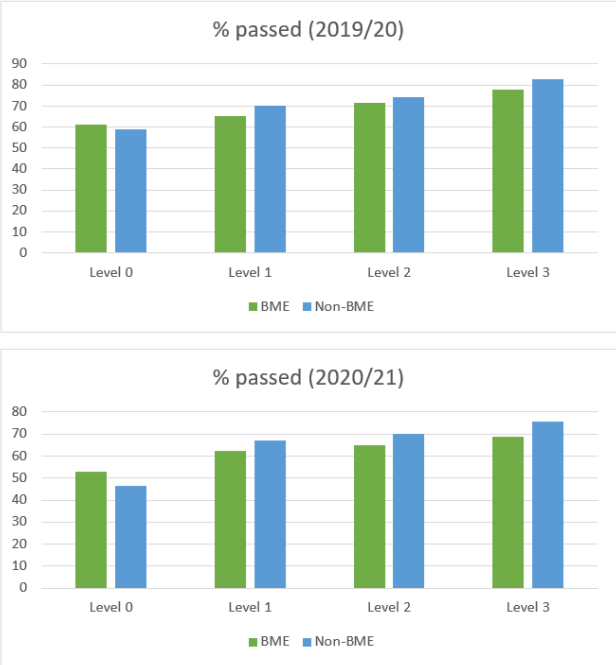

Fig. 1. Pass rates for BAME and non-BAME students at the OU during the pandemic, focusing on different academic levels (Level 0, Level 1, Level 2, and Level 3).

C. Cross-Faculty Analysis

The cross-faculty analysis focused on Level 1 modules and provided insights into the experiences and outcomes of students from different ethnic backgrounds. Fig. 2 illustrates the pass rates for Level 1 modules in various faculties at the OU during the COVID-19 pandemic. For the faculty Pro-Vice-Chancellor (Students) (PVC-S), both completion and pass rates for Level 1 were relatively lower overall, but the difference between BAME and non-BAME students was less pronounced.

Hereafter, the focus of the analysis shifts specifically to Level 1 modules in Computing and Communications. This selection is motivated by the understanding that Level 1 is a pivotal phase in a student's academic journey, laying the groundwork for their chosen field of study. By narrowing the focus to Level 1, the analysis aims to investigate the influence of different factors, including ethnicity, on student outcomes during this crucial early stage.

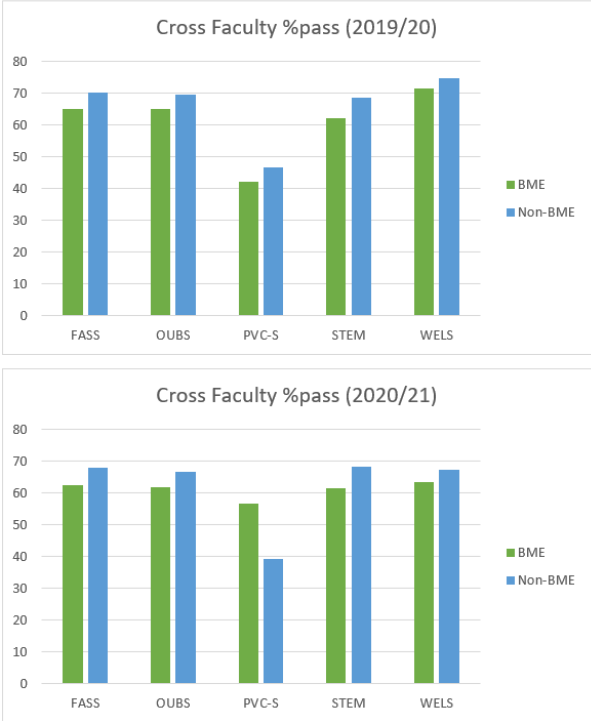

Fig. 2. Pass rates for BAME and non-BAME students at the OU during the pandemic, focusing on different academic levels (Level 0, Level 1, Level 2, and Level 3).

D. Analysis for L1 Computing Modules

The module analysis indicates that in both academic years, there were varying percentages of BAME students enrolled in different modules. The pass rates for BAME students varied across modules as well, with some modules showing higher pass rates for BAME students compared to others. Overall, the pass rates for non-BAME students were slightly higher than those for BAME students in most modules.

In the academic year 2019/20:

- Module TM111(Introduction to computing and information technology 1): Approximately 13.45% of students were BAME, with a pass rate of 60.3% for BAME students and 70.5% for non-BAME students.
- Module TM112 (Introduction to computing and information technology 2): Around 11.01% of students were BAME, with a pass rate of 74.2% for BAME students and 75.2% for non-BAME students.
- Module TM129 (Technologies in Practice): BAME students accounted for about 9.79% of the student population, with a pass rate of 65.7% for BAME students and 74.3% for non-BAME students.

In the academic year 2020/21:

- TM111: Approximately 13.44% of students were BAME, with a pass rate of 61.0% for BAME students and 70.2% for non-BAME students.
- TM112: Around 13.25% of students were BAME, with a pass rate of 66.4% for BAME students and 75.3% for non-BAME students.
- TM129: BAME students accounted for about 12.05% of the student population, with a pass rate of 60.5% for

BAME students and 73.2% for non-BAME students.

These numbers indicate variations in both the percentage of BAME students and their pass rates across different modules. Further analysis and consideration are needed to understand the factors influencing these disparities and to implement appropriate measures to promote academic success and inclusivity for all students, regardless of their ethnic background.

Building on the module analysis, the study also incorporated insights from focus groups to gain a deeper understanding of the experiences and perspectives of students in Computing and Communications. The focus groups provided valuable qualitative data that complemented the quantitative analysis, shedding light on various factors that may contribute to the observed patterns in module outcomes.

IV. Qualitative Analysis: Insights from Focus Groups

Research has consistently demonstrated that data-driven, student-centered approaches can effectively address awarding gaps in higher education [17, 22]. Therefore, we intend to leverage the insights gained from our analysis to engage teaching staff and key stakeholders in dedicated focus group discussions. The qualitative analysis phase involved conducting focus groups with tutors, key stakeholders, and Student Support Team (SST) leads to gain further insights into the factors influencing completion and pass rates, with a particular focus on potential barriers and biases affecting different student groups. These focus groups aimed to gather additional data and perspectives to develop targeted interventions and support programs, specifically addressing disparities among ethnic groups, such as Asian and Black students. The qualitative analysis explored various themes and factors identified in the literature, including economic disadvantage, the digital divide, housing conditions, employment, racism, discrimination, hate, mental health, and unconscious bias.

A. Focus Group with Tutors

To compare the perspectives of Open University educators with the emerging themes from the literature, a focus group was conducted with tutors who taught Level 1 computing modules between 2019 and 2021. The tutors, comprising both women and men of white British/Northern Irish ethnicity, shared their insights on key topics prompted by the literature themes. These topics included the impact of COVID-19 on ethnic minority students' learning experiences and performance, the types of support available to students, and suggestions for enhancing the learning experience and academic performance of students from ethnic minority backgrounds.

B. Participants and Procedure

The focus group included five tutors with extensive experience as Open University educators. The conversation was recorded and transcribed with the participants' consent. The one-hour focus group discussion took place on Teams and was moderated by a member of the research team. The moderator introduced key questions and topics, ensuring equal participation among the tutors. The transcription of the discussion served as the primary document for analysis.

C. Data Analysis and Results

An inductive analysis approach was employed to identify themes and categories emerging from the tutors' responses. The analysis involved assigning descriptors to capture the main ideas expressed by the participants. The results of the focus group revealed important insights related to the correlation of ethnicity with students' learning experiences and performance. While tutors generally lacked knowledge of students' ethnic backgrounds, they agreed that ethnicity itself was not a significant factor impacting students' experiences and performance. Instead, they highlighted several structural factors, including poverty, the digital divide, housing conditions, employment, family responsibilities, and mental health issues, that had a significant impact on students' learning experiences and performance, particularly during the pandemic.

Furthermore, the focus group discussion shed light on institutional factors influencing students' learning experiences and performance. Tutors emphasized the need for a collaborative approach to support students, highlighting the variation in the level of pastoral support provided by tutors. Solutions suggested by the tutors included the introduction of a distinct pastoral role, funding for laptops and equipment repairs to address the digital divide and poverty-related challenges, and considerations for housing and family circumstances during online exams.

V. Discussion

The findings of this study, situated within the context of the COVID-19 pandemic and its disproportionate impact on BAME students, add a significant contribution to the existing body of literature.

The findings of the focus group contribute substantially to the existing literature, providing valuable insights that are specific to a distance learning institution like the Open University [23]. This study sheds light on the persistent inequalities and disadvantages experienced by BAME students in the context of distance learning, emphasizing the Open University's responsibility to develop solutions that extend beyond crisis situations such as the COVID-19 pandemic [24]. The alignment between the perspectives of tutors and the structural factors identified in the literature underscores the existence of similar levels of inequality and disadvantage among BAME students at the Open University [25].

While the study acknowledges the limitations of self-selecting tutors and the need for a more comprehensive inclusion of BAME Level 1 C&C students' perspectives, the insights gathered from the focus group participants can inform the implementation of interventions and support measures to address the identified challenges [26]. It is important to note that issues related to racism, discrimination, hate, and unconscious bias, identified in the literature, were not fully explored due to the tutors' limited awareness of students' ethnicity [27]. However, the study recognizes the potential role of these factors in shaping BAME students' learning experiences and performance at the Open University [28].

The insights gained from the focus group analysis provide valuable perspectives on the lived experiences of tutors and

offer actionable suggestions for enhancing support systems and creating a more inclusive learning environment, with a specific focus on students from BAME backgrounds [29]. This inclusive approach aligns with the broader goal of promoting equitable and inclusive education systems [30, 31]. Another focus group (FG2) was conducted with EDI and SST stakeholders at the Open University, but its detailed discussion is reserved for another publication. However, some information can be shared as a brief summary. FG2 participants, consisting of both BAME and white British stakeholders, highlighted the impacts of COVID-19 on BAME students' learning experiences and performance such as in [32]. They discussed the significance of structural factors like poverty, housing, family responsibilities, mental health issues, safeguarding concerns, and vaccine hesitancy [31]. Institutional factors such as systemic racism, unconscious bias, institutional policies, lack of diversity, and inconsistent contact during the pandemic were also raised. The stakeholders put forward recommendations related to targeted interventions, revisiting policies, building community, increasing diversity, analyzing data, creating individual learning plans, improving tutor engagement, enhancing website usability, providing effective unconscious bias training, and safeguarding EDI work from financial and job cuts.

VI. Conclusion

This study reveals the significant challenges faced by ethnic minority students during the COVID-19 pandemic, which have a substantial impact on their learning experiences and academic performance. The findings emphasize the critical need to address both structural and institutional factors to promote equity and inclusivity in higher education. Implementing recommended strategies will help create a supportive and inclusive learning environment, empowering ethnic minority students to thrive academically.

This paper examines the impact of COVID-19 on the study experiences and academic performance of ethnic minority students enrolled in Open University Level 1 Computing modules. Through a comprehensive mixed-methods approach, the study combines quantitative data analysis with literature review findings and insights from two focus groups conducted with Open University educators and key stakeholders.

Our research, using a mixed-methods approach, has identified that these challenges stem from economic disadvantage, the digital divide, housing instability, employment difficulties, family responsibilities, mental health issues, racism, discrimination, and unconscious bias. These findings highlight the urgency of implementing recommended strategies to create a supportive and inclusive learning environment.

Additionally, institutional factors, including systemic racism, unconscious bias, policy gaps, a lack of diversity, inconsistent contact during COVID-19, and resistance to targeted support, impact the sense of belonging and access to support for ethnic minority students.

To address these challenges, several recommendations were proposed. These included targeted interventions to support ethnic minority students, revisiting institutional policies to reduce barriers, fostering a sense of community and belonging, increasing institutional diversity, analyzing hard data on BAME students' experiences, developing individualized learning plans, improving unconscious bias training, and ensuring that financial and job cuts do not disadvantage Equality, Diversity and Inclusion (EDI) work and the focus on the needs of minority ethnic students.

In summary, this study highlights the complex challenges faced by ethnic minority students during the COVID-19 pandemic and underscores the importance of addressing structural and institutional factors to promote equity and inclusivity in higher education. By implementing the recommended strategies, institutions can create a supportive and inclusive learning environment that empowers ethnic minority students to thrive academically and achieve their full potential.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

DK leaded Project; initiated the project, performed an initial literature search, collected necessary data, performed qualitative analysis, and wrote the initial draft of the paper; SKM assisted DK in obtaining ethical approvals, reviewed qualitative analysis, provided feedback and insights, collaborated on the design of survey questions for the focus groups, and contributed to the review and revision of the paper; AK extended literature search, facilitated and conducted the focus groups with SKM, performed qualitative analysis, identified emerging themes from the focus groups, and contributed to the review and revision of the paper. All authors contributed to the review and final approval of the paper.

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