

A Novel Approach to Support New Foundation Doctor Transition

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Abstract

Background

It is a long-standing problem that medical students feel unprepared for practice following graduation. Disruptions to final year education during the COVID-19 pandemic have exacerbated this situation.

Methods

An online webinar series called “FY1 Survival Guide” was designed to cover the topics of the hidden curriculum. New medical graduates from the globe were invited to attend. An online survey was conducted afterwards in order to assess the improvement in confidence levels and the effectiveness of web-based teaching.

Results

76 responses were included. 85.5% showed an increase in preparedness after attending the series. 96.1% revealed the topics were not covered in medical school. Over half (55.3%) favoured online teaching in general.

Conclusion

Our results demonstrate that online teaching is tantamount to face-to-face training. It could be the prospective new practice of foundation doctor training, yet further research should be conducted on exploring how to standardise and promote this pedagogy.

Introduction

Medical students’ sentiment regarding inadequate preparation for practice has been highlighted as a key issue facing medical education for over a decade. A variety of studies of differing designs, including mixed methods research and systematic reviews, have been conducted with the conclusion that a large proportion of senior medical students feel inadequately prepared to work as a junior doctor.¹⁻⁴

Preparedness for practice has been defined as “possessing the knowledge, skills and behaviours expected of [new doctors], and... knowing limitations, prioritisation, managing stress, engendering patient trust and generally being a safe doctor.”⁵ The UK General Medical Council (GMC) states clearly that it is the responsibility of the medical school to ensure that graduates are well-equipped with the knowledge and skills required of a new doctor.⁶ However, from the definition above, it could be argued that preparedness for practice encompasses more than medical knowledge and clinical skills, and that the factors contributing to adequate preparedness are highly complex. A systematic review of new doctor

preparation for practice revealed that aside from specific knowledge and skills deemed to be essential for practice, a number of institutional or workplace factors, individual factors and university-specific factors had an influence on feelings of preparedness.³

Focusing on the institutional or workplace factors that can contribute to preparedness; these factors should be encompassed within the undergraduate medical education.⁷ The hidden curriculum can be defined as “the set of influences that function at the level of organisational structure and culture including, for example, implicit rules to survive the institution such as customs, rituals, and taken for granted aspects.”⁸ Applying this definition to working as a new doctor in the UK’s National Health Service (NHS), it is thought that there are certain implicit behaviours that dictate success as a new doctor in the NHS, however these have not yet been explored in great detail in the literature.⁸⁻⁹

The GMC’s 2019 report titled *‘The state of medical education and practice in the UK’* states that while their research found that majority of new Foundation Year One (FY1) doctors feel well prepared for the role, this proportion has been steadily declining over the past five years (Fig. 1).⁶

Interestingly, this report also highlighted their analysis of how preparedness for practice can influence long-term risk of burnout. It was found that those who felt less prepared to start working as a foundation doctor were at an increased risk of burnout further in their career and more likely to suffer with issues surrounding wellbeing.⁶ This further reiterates why this is a problem that requires attention, research and action.

In recent times, the COVID-19 pandemic has further exacerbated the issue of transition to practice with the cancellations of clinical placements, student assistantships and final year examinations. A national survey of medical student perceptions of how COVID-19 has impacted their final year education, found that the majority of respondents felt unprepared for FY1 as a result of the changes from COVID-19.¹⁰ Additionally, final year medical students in 2020 were encouraged to graduate ahead of schedule and join the workforce through the creation of Interim Foundation Year One (FiY1) posts.¹¹ Unfortunately, this meant that many final year students were being given the roles and responsibilities of a doctor without having completed all of the components of their final year assessment, including a student assistantship, which has been identified as a key factor contributing to preparedness for practice.^{3,10,12}

Aims

In order to tackle this issue, an online teaching programme titled “F1 Survival Guide” was created to cover aspects of the hidden curriculum.. The secondary aims of this study were to gain an understanding of previous exposure to these topics through medical school teaching, and to consider the effectiveness of virtual teaching when compared with face-to-face teaching for these topics.

Methods

Design of the teaching programme

Content for the teaching programme was selected in line with the GMC's *Outcomes for Graduates*, a document which outlines the qualities and skills required of a new medical graduate in the UK. The three main outcome groups outlined in this document are:

- Outcome 1: Professional values and behaviours
- Outcome 2: Professional skills
- Outcome 3: Professional knowledge.

Outcomes 2 and 3 fall under the skills and knowledge typically disseminated by medical school curricula such as safe prescribing, applying scientific knowledge, communication skills and diagnostic ability. Objectives from 'Outcome 1: Professional values and behaviours' were the focus as these constitute the hidden curriculum which is often not explicitly taught by medical schools.⁸⁻⁹ The sessions are outlined in Table 1 as mapped to their respective curriculum requirement from *Outcomes for Graduates*.

Table 1

Sessions delivered during the online teaching programme are outlined with their content and relation to the UK General Medical Council's document titled 'Outcomes for Graduates'. 'Outcomes for Graduates' details the skills, knowledge and behaviours required of new UK medical graduates.

| Session title | Session outline | 'Outcomes for Graduates' objective |
|--|--|--|
| How to make the most of induction | Pre-employment induction and shadowing typically takes place in the week preceding the start date of the new role as junior doctor. This session focused on key skills to observe and practice during this time, as well as advice on institutional factors to be aware of. | Outcome 1; 2 u) Engage in their induction and orientation activities, learn from experience and feedback... |
| How to handle your ward jobs | This session provided practical advice relating to prioritisation of ward tasks, interacting with multi-disciplinary colleagues and safeguarding wellbeing. | Outcome 1; 2 g) Manage their time and prioritise effectively |
| How to manage your e-portfolio | This session outlined the two e-portfolio systems in use: Horus and Turas. It provided a framework for meeting the e-portfolio requirements for FY1 through advice on writing reflections, approaching colleagues for feedback and constructing a personal development plan. | Outcome 1; 2 t) ...maintaining a professional development portfolio which includes evidence of reflection, achievements, learning needs and feedback from patients and colleagues |
| How to conduct an audit or quality improvement project (QIP) | The completion of an audit or QIP is mandatory for FY1 doctors. This session focused on how to find a topic for the project, how to collaborate with colleagues to complete it and how to improve practice through re-auditing and presentation of the work. | Outcome 1; 5 g) Apply the principles and methods of quality improvement to improve practice... |

Delivery of the teaching programme

The programme was broadcasted internationally through Microsoft Teams between May and August 2020. The format consisted of a 10–15 minute presentation by a current foundation trainee on the headlined topic, followed by 30–45 minutes of panel-style questions and answers. Each session invited panel members from the multi-disciplinary team to provide a wider perspective on each topic. The series was aimed at any new medical graduates preparing to start work as a new foundation doctor in the UK. It was promoted via social media and email to all doctors entering each of the UK foundation schools.

Following each session, a debrief was held amongst the organising team to assess the feedback in order to improve the programme for the next topic.

Data collection and analysis

A survey was created using Mentimeter following a literature search on the aims outlined above (Supplementary file). It included some questions relating to pre-session and post-session confidence and preparedness for practice. It also asked the participants about aspects of the hidden curriculum and for their views on the effectiveness of face-to-face teaching vs. online teaching for these topics. Lastly, it provided a free text box for participants to share their thoughts on the factors which they felt contributed to their confidence and preparedness scores.

Participants were given information about the study beforehand and informed that completion of the survey was entirely optional. They were given the opportunity and information to contact the team with any queries relating to the study, and it was stated that completion and submission of the survey represented their consent for the use of that data in this study. All data collected was anonymous and non-identifiable. The responses were collected via Mentimeter and quantitative data analysed using a spreadsheet. Thematic analysis was conducted on the qualitative data. The data was not shared with any parties outside of this study.

Results

A total number of 148 people participated in the online survey. 76 participants answered all the questions listed on the survey and their responses were used for analysis. The remaining 72 participants only partially completed the survey and their data was excluded from this study (Fig. 2).

Majority of individuals felt an increase in confidence and preparedness for the job of an FY1 after attending the sessions (85.5%; n = 65). (Fig. 3a, 3b) A large proportion stated that the topics delivered would be useful for their future career (93.4%; n = 71) (Fig. 4) while 88.1% (n = 67) would recommend the programme to a final year medical student. (Fig. 5) 7.9% (n = 6) of the cohort were international medical graduates (IMGs), with majority being UK graduates. (Fig. 6)

Only very few reported that they had received formal teaching on these topics in medical school (3.9%; n = 3) (Fig. 7) and a high proportion of students revealed they felt reliant on senior students to teach them

about these topics (69.7%; n = 53). (Fig. 8)

With regards to the mode of instruction, more than half of the respondents preferred online teaching in general (55.3%; n = 42). (Fig. 9) Additionally, only 19.7% (n = 15) felt that face-to-face teaching works better for these topics. (Fig. 10)

Thematic analysis of the free text answers in response to the factors contributing to the confidence/preparedness score revealed a few key themes. They are listed in Table 2 with the number of codes found for each theme. The table reflects that a large frequency of responses included phrases which related to the use of the online format. They stated that this contributed to the increase in feelings of confidence or preparedness through increasing accessibility to the information (Table 2). In line with the results seen in Fig. 7, a large number of answers reflected that the information provided in the teaching programme had not previously been covered by many medical schools. Many responses expressed that the information was completely unknown to the students. Additionally, some answers discussed the benefits of having a current trainee deliver the teaching, including feeling like the information provided was more 'authentic'. Finally, some answers also commented on the ways in which COVID-19 has impacted their preparation for practice and therefore, they found the teaching programme to be of great benefit.

Table 2

The themes which emerged from thematic analysis of the free text data in the 76 surveys completed by attendees of the teaching programme. The number of codes are also provided to display the frequency of themes found in the data.

| <i>Theme</i> | <i>Number of codes</i> |
|---|------------------------|
| Online format increased accessibility | 24 |
| Information not previously provided by medical school | 18 |
| COVID-19 affected preparation for practice | 6 |
| Trainee-led teaching was ideal | 6 |
| Succinct format was beneficial | 6 |

Discussion

The primary aim of this study was to assess confidence and preparedness in new medical graduates preparing to work in the UK pre- and post-intervention. The results reflect that this intervention was able to have a positive impact on the self-reported level of confidence and preparedness for working as a FY1 in the medical graduates who completed the survey (Fig. 3). As outlined in the introduction, the factors influencing preparedness in new doctors are highly complex³ and this study was only able to elicit a few factors contributing to the increase in confidence seen in this cohort. However, one of the main themes which emerged was that the information provided in this teaching series was previously unknown to

many participants and had not been disseminated by medical schools (Table 2). This is in line with only 3.9% of respondents who stated that they had received teaching on these topics by their medical school. These results should encourage reflection upon the exclusion of these topics from the current medical school curriculum as all the topics are included in the GMC's *Outcomes for Graduates* (Table 1). If medical schools are not including this teaching in their curriculum, and the GMC does not explicitly state that it is the responsibility of the medical school to provide teaching on the behaviours required of a graduate⁶, to whom does the responsibility fall upon to provide this information? It was found that 69.7% of respondents felt reliant upon seniors to provide this information, with one participant claiming in their free text answer that "teaching online is more structured than just asking one of your senior colleagues on the ward when you get a chance, as often conversations get cut short". It can be seen as unfair to assume that Foundation Year Two (FY2) doctors will assume the responsibility of providing new graduates with information on the behaviours required for success as a doctor, when they themselves are adapting to a transition from FY1 to FY2.

The secondary aim of this study was to assess the effectiveness of virtual teaching when compared with face-to-face teaching for these topics. The results depict that the majority of attendees found no reduction in effectiveness of the content as delivered through online webinar. In particular, the key theme (Table 2) reflects that many respondents found the online format to be beneficial as it allowed the attendees to view the content from anywhere in the world, at any time, as it was easily recorded and disseminated for re-viewing as required. With the disruption to in-person teaching as a result of the COVID-19 pandemic, online teaching is quickly becoming a highly utilised method of instruction in medical education.^{10,13-15} Whilst all aspects of the medical school curriculum cannot be replaced via online lecture-based learning, the topics outlined in this teaching programme could constitute a preparation for practice series delivered in this manner to allow for the delivery of this information to new graduates. With 7.9% of participants being IMGs, it also encourages thought as to how the official bodies overseeing the foundation training curriculum for junior doctors may be able to better support this subset of individuals in preparation for practice in the UK. It could be seen that the online format allows graduates from anywhere in the world to access the same information that UK graduates are receiving related to behaviours which influence success in the NHS.

Limitations

The limitations of this study include the small final sample size after exclusions were made to the data collected due to incomplete sets. This meant that statistical analysis on the final data was limited and calculations unlikely to show significance.

The study was also limited by the spread of attendees. Accurate data on the demographics of the participants and their graduating medical school were not collected, which may have impacted the results, particularly when studying whether or not formal teaching has been provided on these topics.

Lastly, the study was limited by the potential for recall bias in asking respondents to retrospectively answer questions relating to their pre-session confidence level and the amount of teaching given at medical school in the listed topics.

Recommendations

However, despite the limitations, there are some important learning points that this study has highlighted. From these lessons, the authors make the following recommendations:

- Virtual learning should be encouraged as a method of teaching in transition to practice in order to increase accessibility of the information. Also this would provide benefit to both student and institution through the conservation of resources such as time and finances, and a reduction in COVID-19 infection risk.
- Recommendations for the health system include further research into the creation of a national online training programme to prepare for practice. This study recommends the provision of a standardised, online, transition to practice teaching series, available to all doctors preparing to start a foundation programme role in the UK to view at their convenience.
- Medical schools should audit their own transition to practice activities in order to assess their impact on student preparedness and alignment with *Outcomes for Graduates*.
- Further research into improving medical student transition to practice should be carried out in order to gain a better understanding of the factors which influence this and how they may be mitigated.

Conclusion

Through this work, it has been learned that there is still improvement that can be made in supporting new graduates in transition to practice. This intervention has been implemented with positive change, however, there is room to enhance and even standardise this transition among all new doctors who will work in the UK.

Declarations

Ethics approval and consent to participate: The study was conducted in accordance with relevant guidelines and regulations. The approval of study protocol was waived by NHS Research Ethics Committee. Informed consent was obtained from all the participants involved.

Consent for publication: All the authors have reviewed the manuscript and agreed for submission

Availability of data and materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: No financial conflict of interest

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Authors' contribution: Tsun Yu Kwan and Sharvari Vadeyar designed the study, collected and analysed the data as well as drafting the manuscript, under the supervision of Thuvarahan Amuthalingam who is responsible for critical revision

Acknowledgement: Not Applicable

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Figures

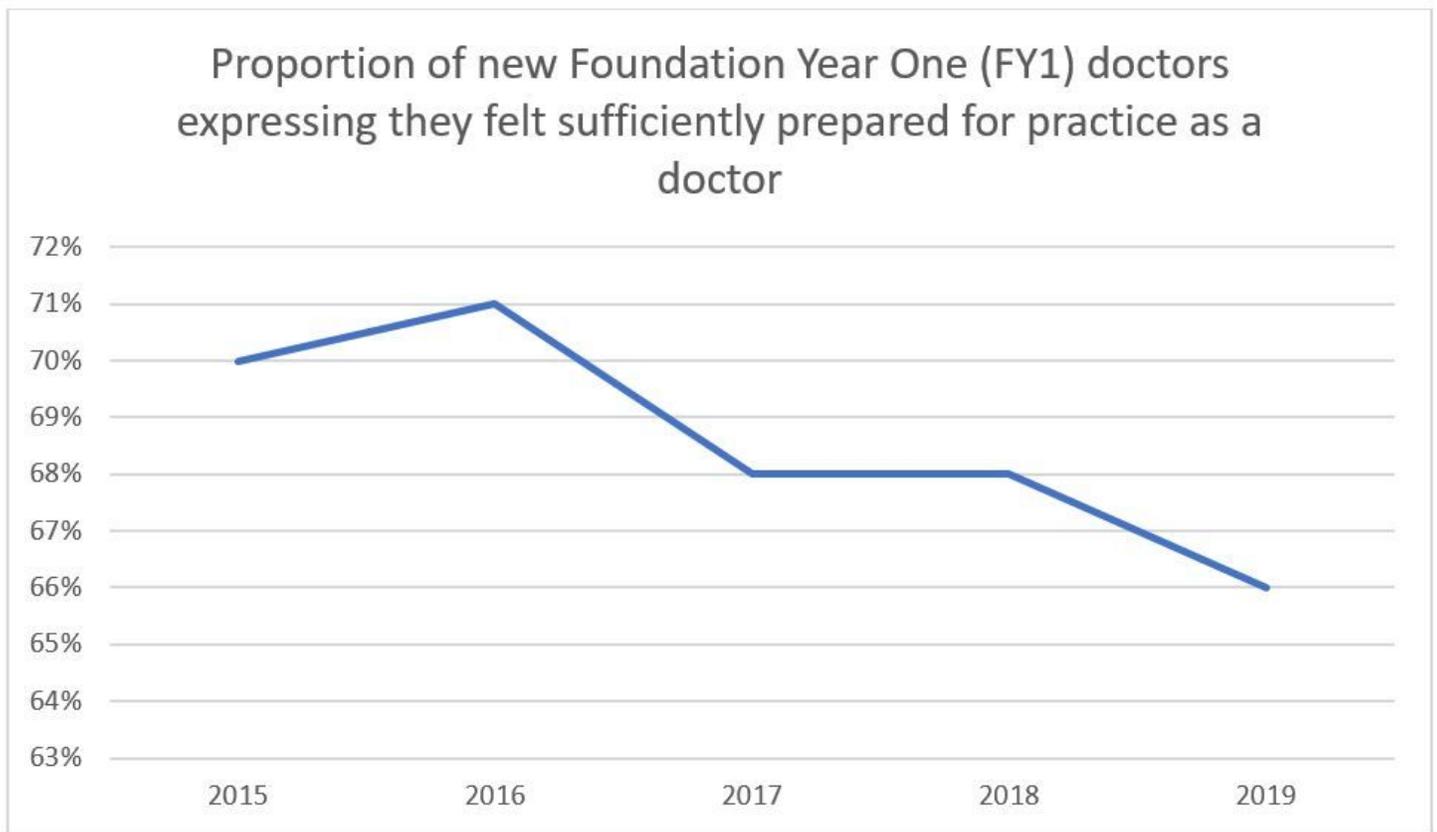


Figure 1

GMC 2019 report- The state of medical education and practice in the UK :The proportion of new Foundation Year One (FY1) doctors expressing they felt sufficiently prepared for practice as a doctor. This figure shows the steady decline in this percentage over the five year period from 2015 to 2019. [6]

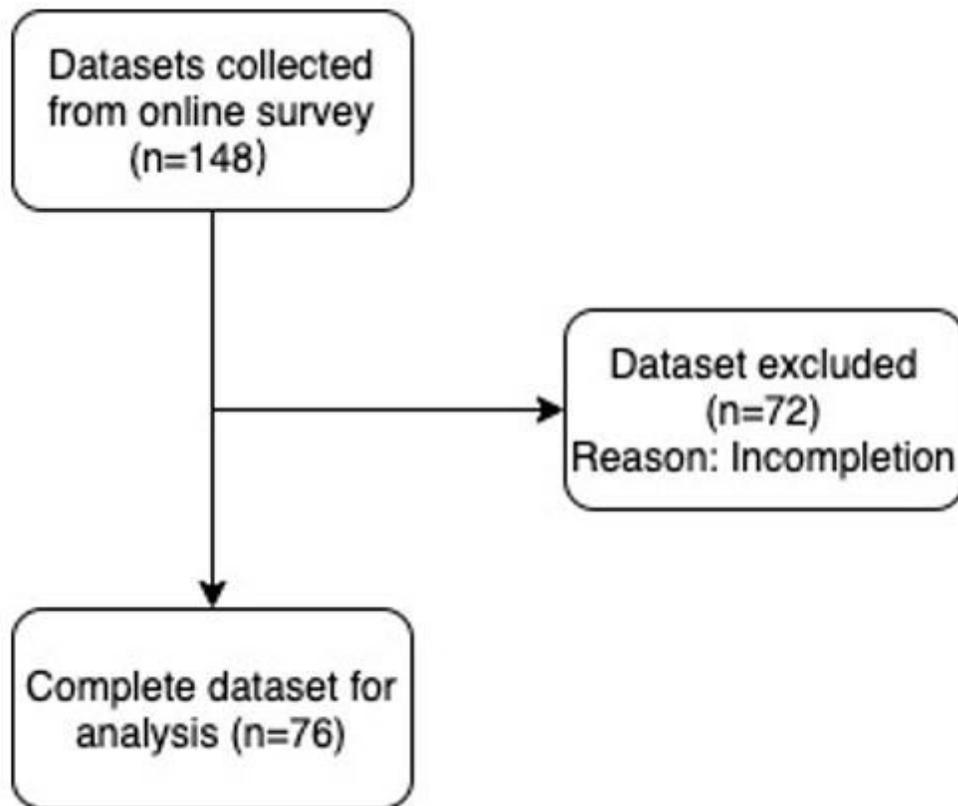
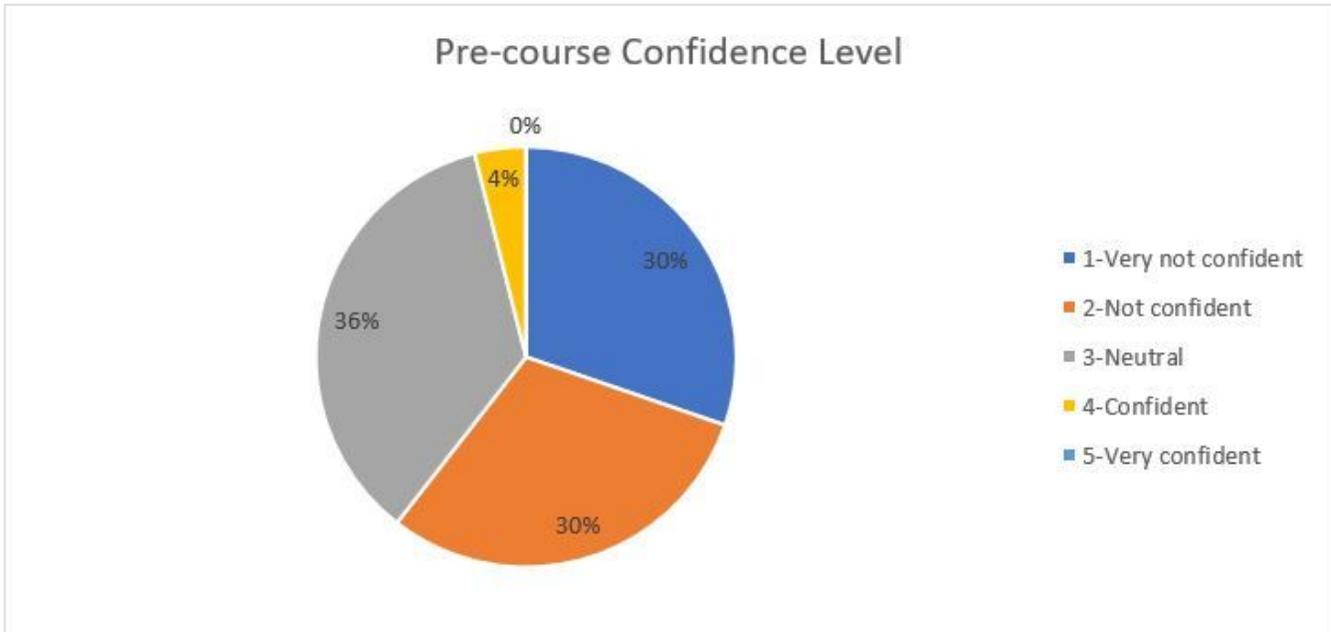
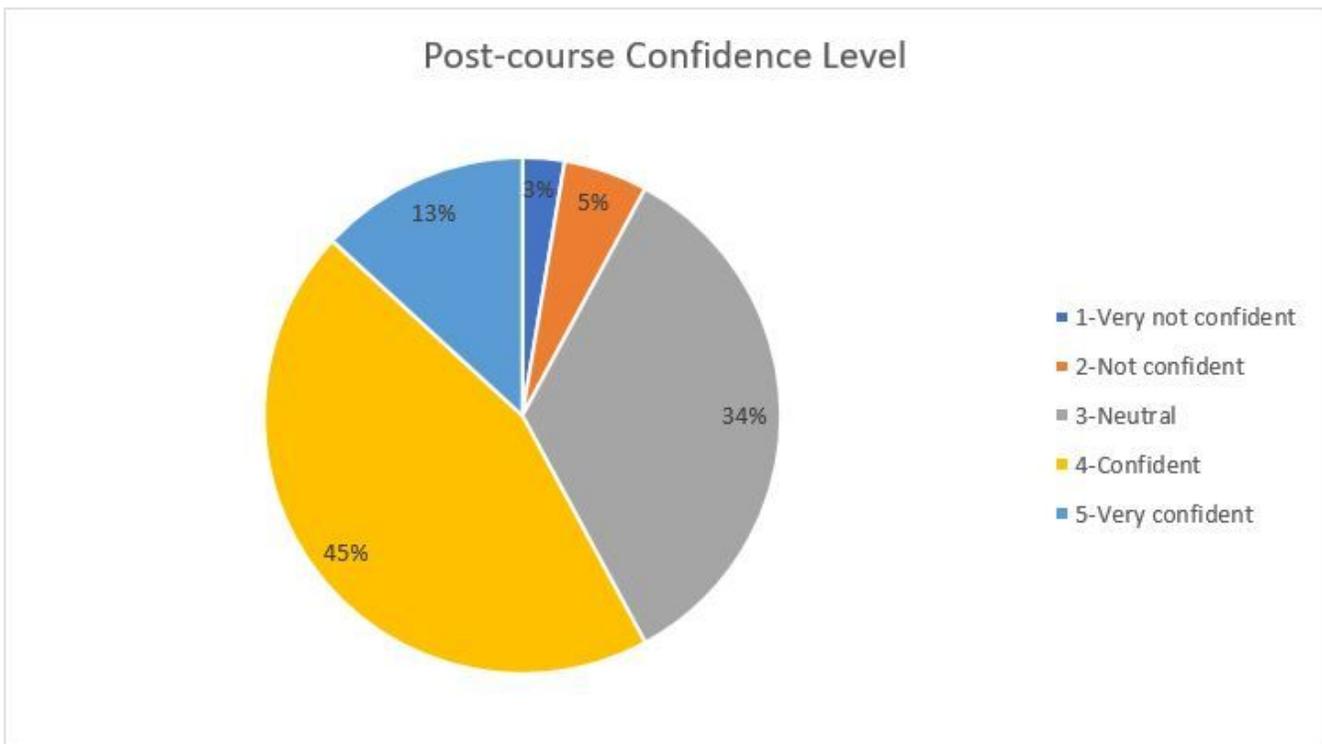


Figure 2

The total number of data sets collected, with the number excluded due to incomplete variables, and the total number of complete data sets included in the subsequent analysis.



a



b

Figure 3

Figure 3a: Pre-course confidence levels Figure 3b: Post-course confidence levels

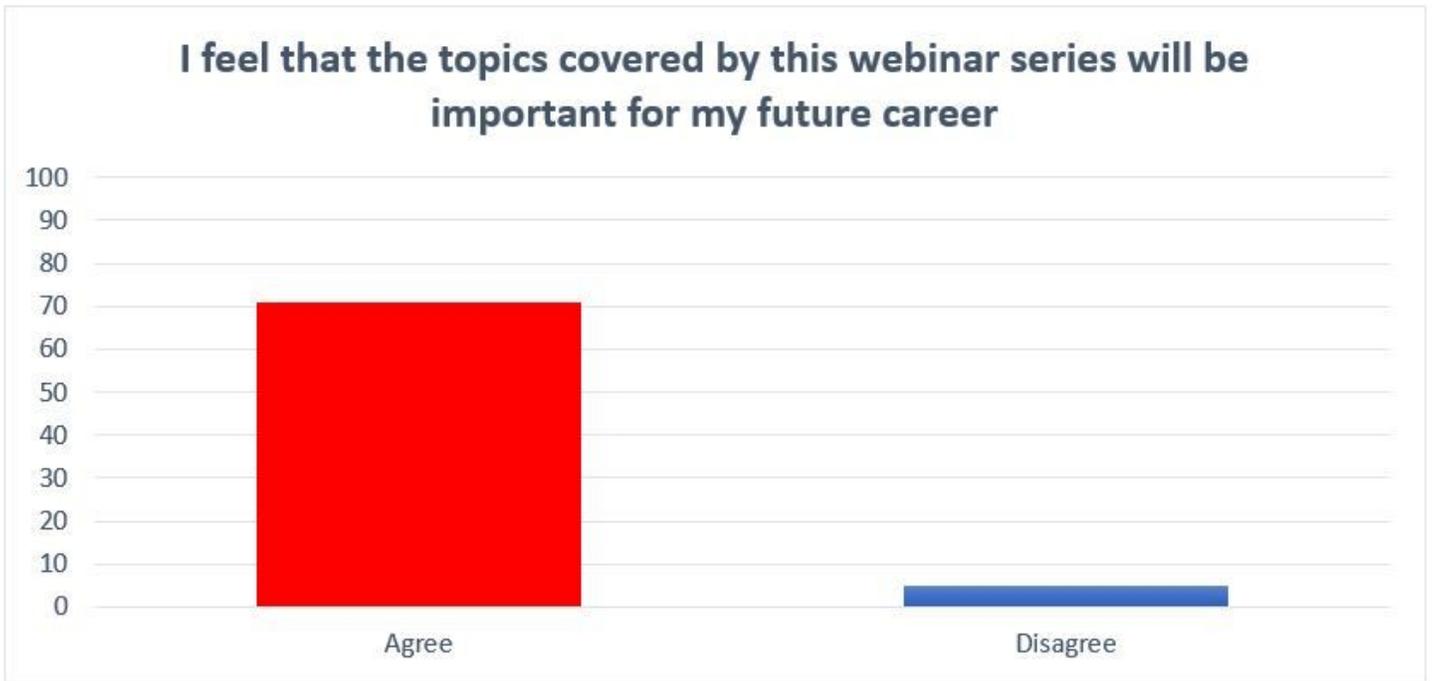


Figure 4

The number of participants feeling the topics covered by this webinar series will be important for their future career

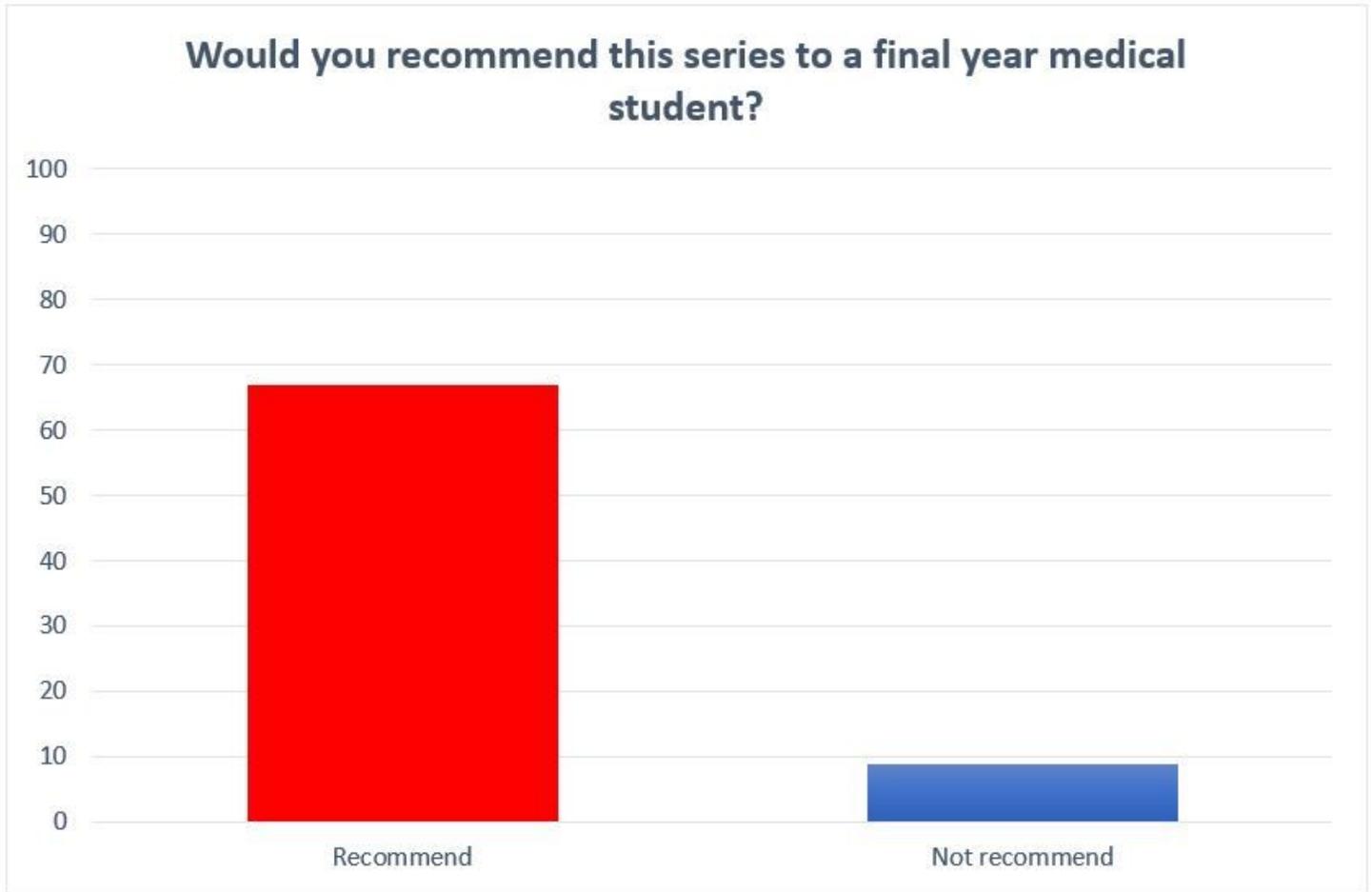


Figure 5

The number of participants recommending the webinar series

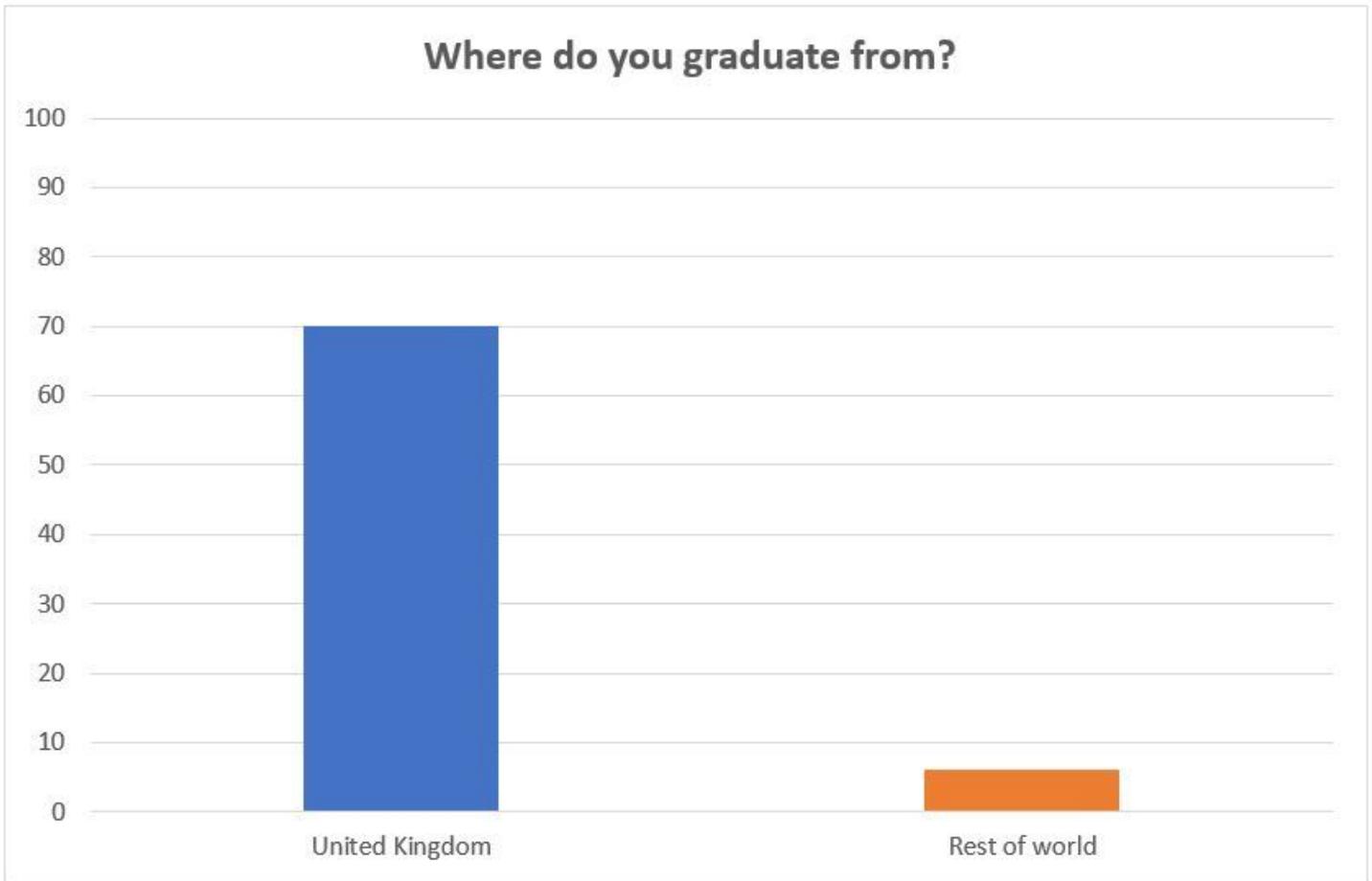


Figure 6

The location of medical graduation of the participants

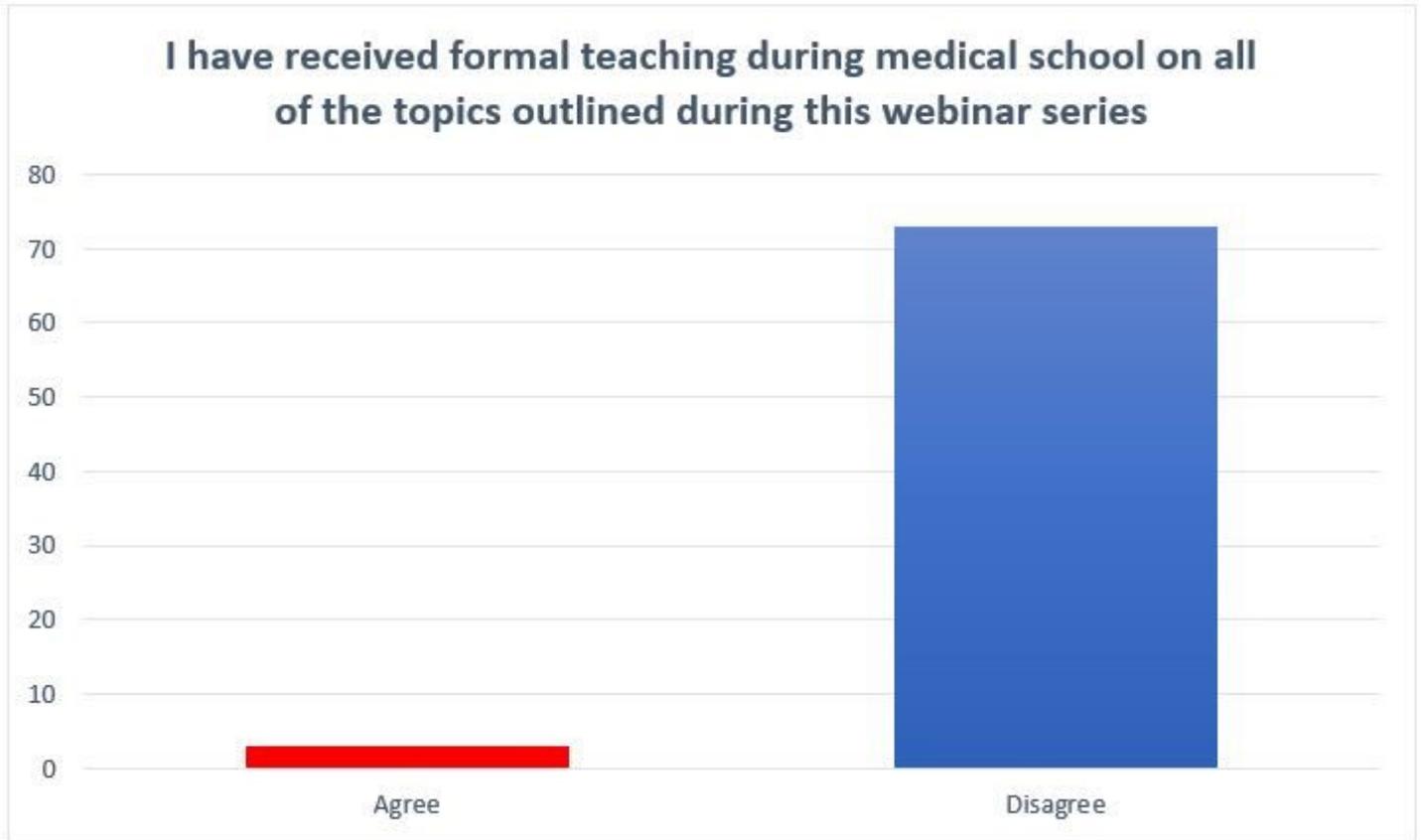


Figure 7

The number of participants receiving formal teaching on the topics of webinar series during medical school

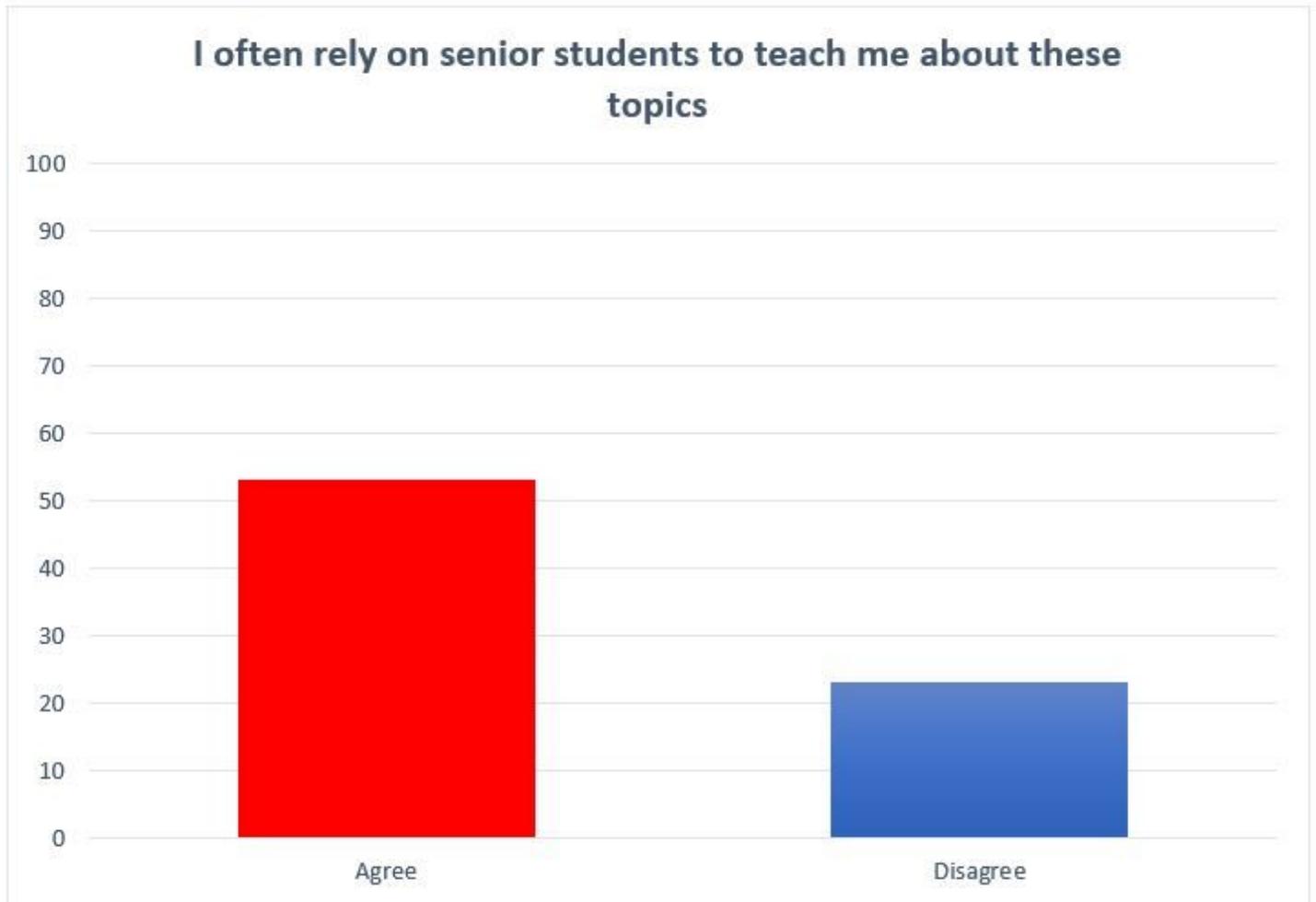


Figure 8

The number of participants relying on senior students to teach about the topics covered by webinar series

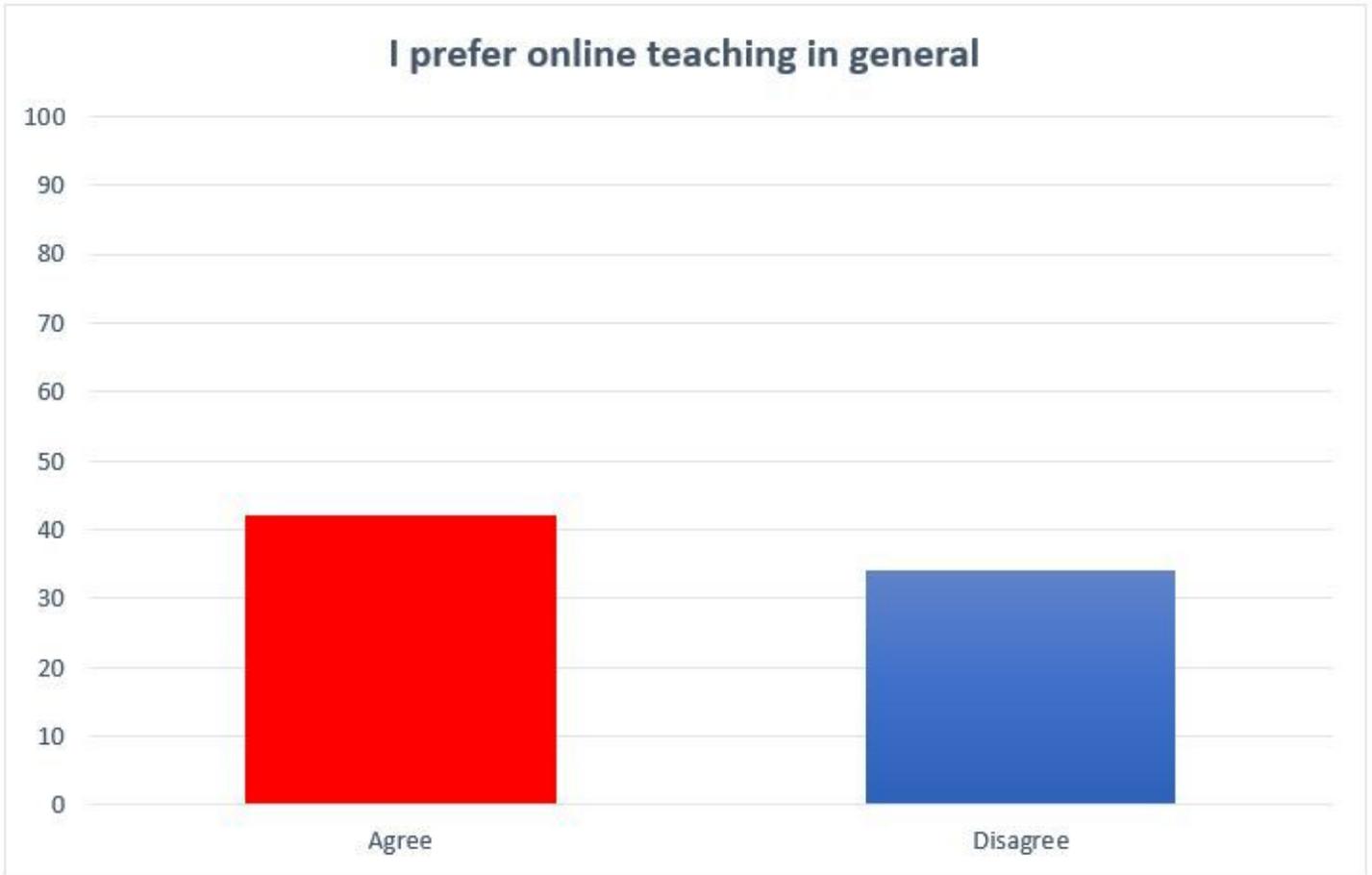


Figure 9

The number of participants preferring online teaching in general



Figure 10

The number of participants thinking face-to-face teaching works better for this webinar series

Supplementary Files

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