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Co-creating future trauma surgeons: a mixed-methods evaluation of a student-led, four-year longitudinal Student Selected Component

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Abstract

Background

Undergraduate trauma education in the UK remains scarce, limiting opportunities to develop future trauma surgeons. Trauma Sciences and Care of the Injured Patient Programme (TSCIPP), a co-created, student-led, four-year longitudinal Student Selected Component (SSC), was developed to address this gap. This study evaluated students' experience of TSCIPP, including its perceived benefits and its impact on career progression.

Methods

A mixed-methods, cross-sectional survey was conducted in accordance with the CROSS checklist. All 27 final-year TSCIPP students and alumni across five cohorts (2018 to 2022) were invited to complete an online questionnaire focusing on four domains: trauma exposure; research and academic development; teaching, leadership and mentorship; and patient and public involvement and engagement. Quantitative items were analysed descriptively, with thematic analysis of open-ended responses.

Results

Twenty of 27 participants responded (74%). Self-rated effectiveness scores were high across domains. Greatest benefits were reported in teaching, leadership and mentorship skills (median 9.5/10), developed through co-delivery and role-modelling. Thematic analyses revealed a beneficial, sustained trauma exposure throughout the programme, scaffolding knowledge and clinical skills development, underpinned by mentorship and research opportunities. Participants reported a shift from learner to educator, extending into teaching junior medical students and engaging the local community. These were collectively credited with success in competitive training applications, with professional growth and career development rated highly (median 9.5/10). Alumni described benefits that extended into their postgraduate careers.

Conclusion

TSCIPP is an effective educational model for early surgical and trauma development. Its co-designed integration of clinical exposure, teaching, research and engagement helps develop transferable skills. TSCIPP is also successfully integrated into an MBBS curriculum, and its structure, rooted in established educational frameworks, is likely replicable in other surgical specialties.

Introduction

Traumatic injuries are a leading cause of death and disability worldwide, affecting individuals across the lifespan (1). Together with the impact of premature mortality and prolonged disability traumatic injuries impose a substantial economic burden, costing countries up to 3% of gross domestic product through healthcare expenditure, lost productivity, and long-term care needs (2). Despite this, undergraduate medical trauma education in the UK remains limited (3). A national study reported that up to 80% of graduates had only 0–5 hours of exposure to trauma patients, with over 70% lacking confidence in initial trauma assessment and clinical management (4, 5). Evidence suggests this deficit has not improved over the past two decades, with successive studies reporting persistent gaps in trauma teaching across UK medical schools (6, 7). This gap is further compounded by increasing competition in specialty training, suggesting that early clinical exposure may need to be complemented by the development of a competitive academic and professional portfolio (8).

To address these gaps, the Trauma Sciences and Care of the Injured Patient Programme (TSCIPP) was developed as a co-created, student-led collaboration between a major trauma centre, a research institution, and a medical school, supported by a multidisciplinary team of clinicians, researchers, and allied professionals. Students can apply to join the programme from year 2 of the MBBS degree. Designed as a four-year longitudinal Student Selected Component (SSC), the programme provides stepwise, sustained exposure to trauma patients through integrated clinical attachments, teaching, public engagement, and research opportunities, offering a more continuous, comprehensive approach than conventional short, discipline-specific SSCs. Importantly, beyond participation, students play an active role in the delivery of the programme, from organising teaching sessions, lectures, and clinical placements to contributing to grant applications and programme publicity, enabling the development of leadership, teaching, and mentorship skills alongside clinical and academic training.

Established in 2018 with an initial cohort of four students, TSCIPP has grown to include 24 current students across MBBS Years 2 to 5, alongside 22 alumni who have completed the programme. TSCIPP has developed over this time with small-scale changes in content but few adaptations to the core structure and learning outcomes. To date, there has been no comprehensive evaluation of TSCIPP's cumulative educational impact, and as TSCIPP continues to expand, there is a need for a systematic evaluation to determine how effectively it meets its intended learning outcomes, aligns with internal and external standards, and supports students' professional development across all four years. This study aimed to evaluate the experiences of final-year students and alumni participating in TSCIPP, including its perceived benefits for clinical, academic, and professional development, and the challenges to sustained engagement, with the goal of informing the design of similar longitudinal SSCs.

Methods

Study Design

This project was conducted as an educational evaluation using a mixed-methods, cross-sectional survey design to assess student experiences and perceived learning outcomes across the four domains of TSCIPP: 1) trauma exposure, 2) public and patient involvement and engagement, 3) research and academic development, and 4) teaching, leadership, and mentorship. The study was designed and reported in accordance with the Checklist for Reporting of Survey Studies (CROSS; Supplement 1).

TSCIPP's broader educational aims extend beyond quantitative performance. These include developing an understanding of trauma systems, cultivating reflective and professional practice, engaging with research and public health initiatives, and gaining experience in teaching and leadership activities (Supplement 2). Such outcomes are developmental, experiential, and student-centred, and therefore required a mixed methods approach with qualitative exploration alongside quantitative data.

Development of the evaluation tool

The evaluation tool was developed as an online questionnaire comprising nine sections and 26 questions, designed to capture student experiences and learning outcomes across the four domains of TSCIPP. The questionnaire included closed-ended items, Likert-scale ratings, and open-ended questions, covering demographics, engagement with programme components, domain-specific learning outcomes, professional development, and perceived challenges. The full questionnaire structure is provided in Supplement 3.

To ensure the questionnaire reflected the intended purposes of the evaluation, items were first mapped to the project objectives (Supplement 4). The four TSCIPP domains were additionally reviewed against the GMC Outcomes for Graduates (2020) and Advanced Trauma Life Support (ATLS) competencies to ensure alignment with recognised expectations for trauma-related education (Supplement 5) (9, 10).

Prior to full administration, the questionnaire was pre-tested by five final-year medical students from different medical schools, each undertaking standalone SSCs. Feedback indicated that questions were generally clear and concise; however, the questionnaire was considered lengthy. In response, two questions were removed and three were reworded.

Population

The study population comprised final-year TSCIPP students and alumni based at a single major trauma centre and affiliated medical school in London. Participants were eligible if they had either completed all four years of TSCIPP or were currently enrolled in their final year at the time of data collection by which point they had substantially completed the programme.

Survey Administration

A purposive sampling approach was used, targeting all individuals who met the eligibility criteria. Data were collected using an online questionnaire hosted on Google Forms, a secure web-based platform, accessible on both computer and mobile devices. The survey link was distributed electronically via WhatsApp and email, with an estimated completion time of 8–10 minutes. Data collection was conducted over a three-month period from December 2025 to February 2026. To minimise non-response bias, participants received up to three follow-up reminders to complete the survey.

Ethics

This project was approved by the Queen Mary University of London Devolved School Research Ethics Committee (ref DSREC252616_UG2). Participant information situated at the start of the questionnaire explained the evaluation and how anonymity and confidentiality were maintained. Participation in the evaluation was entirely voluntary and completion of the questionnaire implied consent to participate. All data were collected anonymously via Google Forms and were accessible only to the research team, in accordance with accepted standards for ethical practice in educational evaluation (11).

Data Analysis

Quantitative data were exported from Google Forms to Microsoft Excel, where data were cleaned and tabulated. Analysis was completed using R studio (version 4.4.1; 2024). Frequencies and percentages were calculated for categorical variables, including attendance and completion of programme components. Students were asked to rate components on a scale from 1–10 and these were reported as numbers, medians and interquartile ranges.

Qualitative data from open-ended responses were analysed using thematic analysis, following Braun and Clarke's six-phase framework (12). This approach was selected for its flexibility in exploring both predefined domains and emergent insights. Analysis was conducted iteratively through familiarisation, coding, and theme development, with ongoing review and refinement of themes. Coding was performed manually using Microsoft Word. Each stage of the analysis was guided by established quality criteria, as outlined in Supplement 6. Direct anonymised quotes are used to illustrate themes.

Quantitative and qualitative findings were reviewed collectively to identify patterns across the four domains. Domain-level results were interpreted in relation to internal and external benchmark standards (Supplement 5) to contextualise findings within recognised expectations for trauma-related education and to support the development of evidence-based recommendations for strengthening TSCIPP.

Results

A total of 20 out of 27 eligible participants completed the questionnaire, corresponding to a response rate of 74% (20/27) (Fig. 1). This included four final-year students and 16 alumni. Respondents represented all five TSCIPP cohorts from 2018 to 2022, with the majority being alumni (80%) currently working in postgraduate clinical roles. Three participants (15%) were Graduate Entry Programme (GEP) students (Table 1).

Table 1
Demographic Characteristics of Participants

	Participants (n = 20)	
	Frequency, n	**Percent, %**
Year Joined TSCIPP		
2018	4	20
2019	5	25
2020	5	25
2021	3	15
2022	3	15
GEP Student		
Yes	3	15
No	17	85
Completion status		
Currently Year 4	4	20
Alumni	16	80
Current Role		
Final Year Student	4	20
Foundation Year	8	40
Other postgraduate roles*	8	40
*Other postgraduate roles included Core Surgical Trainees (CT), Specialty Trainees (ST) in surgery, General Practice (GP) trainees, radiology trainees, and clinical fellows in surgical and emergency medicine specialties.		

Student-rated effectiveness scores across the four TSCIPP domains across all domains clustered towards the higher end of the scale (Fig. 2A-D). Leadership, Teaching and Mentorship received the highest median score of 9.5 (IQR 8–10), followed by Research and Academic Development at 9.0 (IQR 9–10) and Trauma Exposure at 8.5 (IQR 8–10). Patient and Public Involvement and Engagement received a median score of 8.0 (IQR 6.75–10) and has the widest score distribution of all four domains. Participants also ranked their experience of TSCIPP in relation to professional growth, employability, and career development, which received a median score of 9.5 (IQR 8.75–10).

Thematic analysis generated 62 initial codes, which were clustered into seven candidate themes before consolidation into four final themes through iterative review and refinement (Table 2). TSCIPP was identified as a catalyst for career development and portfolio building. Respondents highlighted the value of sustained exposure in building clinical knowledge and skills that continued to benefit them in post-

graduate roles: "*four years working with leading trauma surgeons and educators gave me the confidence and clinical knowledge I now use as a clinical teaching fellow in the intensive care unit (ICU) and emergency department (ED)"* and *"the skills I learnt were incredibly helpful, especially during my Senior House Officer (SHO) job in ED, where I needed to safely assess trauma patients."* Respondents also described developing competitive portfolios through engagement in research, teaching, and leadership, including publications, poster/oral presentations, and educational roles: *"my core surgical trainee application consisted of mostly projects, teaching, and placements from TSCIPP."* Involvement in TSCIPP was reported to have contributed to success in competitive training applications, including Internal Medicine Training (IMT), Core Surgical Training (CST), and the Academic Foundation Programmes (AFP): *"it helped me so much in achieving my goals, securing an academic job and having a full portfolio for my CST applications."* Exposure to clinical trauma management and professional networks was also reported as influencing career direction and specialty choice: *"great programme with excellent research opportunities - it has significantly influenced my choice of specialty."*

Table 2
Thematic Analysis

Theme	Sub-themes	Quote
Catalyst for clinical and career development	Sustained exposure building clinical knowledge and skills that benefit postgraduate practice	"Four years working with leading trauma surgeons and educators gave me the confidence and clinical knowledge I now use as a clinical teaching fellow in ICU and ED." "The skills I learnt were incredibly helpful, especially during my Senior House Officer (SHO) job in ED, where I needed to safely assess trauma patients."
	Development of a competitive academic and clinical portfolio	""My core surgical trainee application consisted of mostly projects, teaching, and placements from TSCIPP." "Portfolio (publications / poster presentation / teaching), conference attendance, professional contacts, general understanding of career."
	Enhanced employability and success in competitive training applications	"It helped me so much in achieving my goals, securing an academic job and having a full portfolio for my CST applications" "Being able to put down my TSCIPP experience on my CV has made me more employable and opened up many opportunities for me."
	Influence on career direction through clinical exposure and access to opportunities	"Great programme with excellent research opportunities. It has significantly influenced my choice of specialty." "Access to opportunities which have given CV help and allowed me to apply for certain opportunities that I would not have otherwise had access to"
Experiential learning	Co-creation enabling students to shape and refine the programme	"[Co-creation] gave me and my colleagues the freedom to shape the programme into what we felt would most benefit students." "A curriculum review led by current students and alumni, with input from TSCIPP staff, mentors, and the university team, allows issues to be addressed."
	Leadership and teaching roles driving transferable skill development	"Able to deliver a long term trauma teaching programme…" "Balancing SSCs alongside medical school taught me time management."
	Transition from learner to educator	"Over the course of the programme, I experienced the shift from learner to educator."
	Extending learning into the community through PPIE	"Public health, particularly knife crime, featured heavily throughout our trauma exposure." "I discussed sensitive topics such as knife crime with young people whilst teaching them CPR and haemorrhage control, which helped me understand different perspectives." "Trauma is not merely a medical issue, but also a societal issue."
Personalised student experience	Clear expectation, and structure enabling personalised objectives	"We had a clear clinical project and learning objectives from the start." "I used TSCIPP to explore my passions and personalise my experience." "Publishing my first paper as a first-author in an international journal!" "Increasing confidence in critical appraisal, stats skills."
	Self-directed clinical opportunities, supported by programme initiative	"I sought out a lot of these opportunities and used my experience on TSCIPP to facilitate them." "Clinician awareness of the programme made opportunities easy to access." "Having the rota available showed us which consultants we could email."
	Personalised mentorship as a key enabler	"Having a 1:1 mentor for the dissertation was invaluable." "Incredibly helpful mentorship, hugely increasing confidence."

Theme	Sub-themes	Quote
		"Support with SSC4 dissertation and push to publish." "Depending on the senior with you, very different involvement in clinical aspects."
	Sense of belonging	"I felt part of the trauma team." "I made very good friends through TSCIPP who are like-minded and driven." "I felt empowered to express my point of view, which I will bring with me when I start working."
Time and workload	A demanding but manageable and worthwhile time commitment	“Balancing university work and TSCIPP was tricky at first but managed to find balance.” “Quite a time commitment, however has proven more than worth it for my medical career.'" “The difficulty of organising the aspects of the programme whilst also revising for exams and conducting projects was very challenging.”
	Distribution of responsibilities within teams, particularly during exam periods	“Sometimes all the responsibility might fall on one or two individuals eg: during exam season”

Experiential learning underpinned values of co-creation and professional skill development. Students valued the opportunity to shape the programme around their educational objectives and to refine its aims each year in response to changing trends: *"[co-creation] gave me and my colleagues the freedom to shape the programme into what we felt would most benefit students" and "curriculum review led by current students and alumni, with input from TSCIPP staff, mentors, and the university team, allows issues to be addressed."* Organising and delivering trauma teaching was reported to drive transferable skill development, including communication, teamwork, and time management: *"balancing SSCs alongside medical school taught me time management."* Students also described a shift in professional identity through teaching roles: *"over the course of the programme, I experienced the shift from learner to educator."* This extended into the wider community, with students applying their learning to public health education and prevention: *"public health, particularly knife crime, featured heavily throughout our trauma exposure"* and *"I discussed sensitive topics such as knife crime with young people whilst teaching them* cardiopulmonary resuscitation *(CPR) and haemorrhage control."* Learning was also reciprocal, with PPIE broadening students' perspectives: *"it helped me understand different perspectives"* and *"trauma is not merely a medical issue, but also a societal issue."*

Programme structure, mentorship and sense of belonging were identified as key influences on student experience. Students described clear expectations from the outset: *"we had a clear clinical project and learning objectives from the start."* Experiences across all four domains were positive but varied, as TSCIPP's co-creation structure allowed students to personalise their objectives: *"I used TSCIPP to explore my passions and personalise my experience."* Some students prioritised outputs, aiming to *"achieve publications,"* whilst others sought to develop *"research skills such as critical appraisal and data analysis."* Engagement with clinical trauma opportunities was largely self-directed, requiring students to actively seek them out, which many did successfully: *"I sought out a lot of these opportunities and used my experience on TSCIPP to facilitate them."* Students also valued initiatives that made these opportunities easier to access: *"clinician awareness of the programme made opportunities easy to access"* and *"having the rota available showed us which consultants we could email*." Variability in mentor engagement contributed to differing experiences across students: *"depending on the senior with you, very different involvement in clinical aspects."* Where mentorship was strong, students described it as invaluable and confidence-building: *"incredibly helpful mentorship, hugely increasing confidence."* Students also described a sense of belonging that fostered psychological safety: *"I felt part of the trauma team," "I made very good friends through TSCIPP who are like-minded and driven,"* and *"I felt empowered to express my point of view, which I will bring with me when I start working."*

In the final theme of time and workload, participants reported that time constraints and competing demands of the MBBS programme were challenges to programme engagement on occasion. Whilst enjoyable, leadership roles and teaching activities often required work outside study or clinical hours: "*the difficulty of organising the aspects of the programme whilst also revising for exams and conducting projects was challenging*,." Uneven distribution of responsibilities within teams was also reported: "*sometimes all the responsibility might fall on one or two individuals, e.g. during exam season.*" Despite these demands, participants generally felt that navigating this workload positively contributed to their medical career and personal development: *'balancing university work and TSCIPP took some thought but managed to find a good balance*,' and *'quite a time commitment, however has proven more than worth it for my medical career*."

Discussion

This evaluation found that a longitudinal, student-led SSC embedded within a dedicated clinical specialty is an effective solution to a well-documented gap in undergraduate trauma and surgical education. Both self-rated scores and thematic analysis showed a positive experience across all four domains. Respondents described sustained trauma exposure, experiential learning and a personalised experience as a catalyst for career and portfolio development. They credited it with professional growth, employability and career progression. These benefits lasted well into postgraduate careers. TSCIPP is also integrated successfully into the existing MBBS curriculum, and its structure, rooted in established educational frameworks, is likely replicable in other specialties.

TSCIPP's benefits are best understood through three distinct values. First, sustained engagement across four years within a major trauma centre provided students with a spiral learning experience in managing trauma patient from resuscitation to rehabilitation. Bloom's Taxonomy offers a useful description of this progression(13, 14). In early years, students are only required to understand a presentation. As they progress, the same clinical environment demands that they begin analysing the underlying physiology, critiquing investigations and clinical guidance. This may explain why students described "four years working with leading trauma surgeons and educators" as giving them the confidence, knowledge and clinical skills they now use as clinical teaching fellows in ICU and ED, and as SHO safely assessing trauma patients. This progression also aligns with GMC Outcome 2 professional skills and core ATLS assessment principles. At the peak of Bloom's taxonomy, sustained exposure through TSCIPP can leads to creation: new approaches to management, new initiatives in teaching and leadership, and new audit and quality improvement projects.

Second, the theme of experiential learning can be explained by co-creation, a validated concept built into TSCIPP's structure (15,16). Students act as active participants with shared responsibility for TSCIPP's organisation, content and delivery, rather than as passive recipients of a fixed curriculum. Students valued this "freedom to shape the programme into what we felt would most benefit students." This drives accountability in learning and may explain why leadership, teaching and mentorship was the highest rated domain (median 9.5), with students describing a shift in identity from "learner to educator". Co-creation also disrupts the traditional hierarchy between supervisor and student. It reinforces that both contribute different but equally valuable expertise. This was reflected in students feeling "empowered to express my point of view." Finally, the student-led annual curriculum review builds in a structured opportunity for reflection, mirroring Kolb's Reflective Cycle (17). Combined with sustained exposure, TSCIPP gives student knowledge, prompts reflection, and holds them accountable through its structure, all of which are conditions experiential learning requires.

As a result, these educational frameworks, staggered alongside TSCIPP's structure, become a powerful catalyst for career development. UK National Health Service (NHS) training applications can be broadly categorised into two components: portfolio and interview (18). The portfolio rewards quantifiable output across research, teaching, audit and quality improvement, all areas many students struggle to build (19). This is precisely what the "progression to creation", discussed above, equips TSCIPP students to produce. As one respondent described, "my core surgical trainee application consisted of mostly projects, teaching, and placements from TSCIPP." Meanwhile, interview performance assesses the essential and desirable traits outlined in person specifications (20). TSCIPP builds these alongside the portfolio. Students described developing teamwork, communication, time management, leadership and teaching skills, qualities that sustained exposure and co-creation are likely to cultivate. Combined, this may explain why students rated professional growth, employability and career development highly (median 9.5) and credited TSCIPP with success in competitive applications across multiple training pathways, including IMT, CST and AFP. Students also described TSCIPP as shaping their choice of specialty, which may strengthen their commitment to trauma/surgery.

Third, TSCIPP integrates well within the MBBS curriculum. It runs within the existing SSC framework, with mandated assessments scrutinised by the medical school's exam board. Normalisation Process Theory (NPT) may offers a useful lens for understanding why (21). NPT describes four mechanisms through which an intervention becomes embedded in routine practice, each reflected in the findings discussed above. Coherence comes from a clear purpose and expectations, with students describing "a clear clinical project and learning objectives from the start." Cognitive participation comes through co-creation and a sense of belonging. Collective action is supported by mentorship, clinician awareness and engagement. Reflexive monitoring is built in through student-led curriculum review. This integration also extends to national priorities, with the NHS 10 Year Health Plan calling for a shift "from sickness to prevention" (22). In the second year of TSCIPP, students are given the opportunity to contribute to PPIE projects. TSCIPP students have used this to extend their learning into the community, teaching young people life-saving skills while leading discussions on sensitive topics. In doing so, students came to recognise that "trauma is not merely a medical issue, but also a societal issue," building the prevention-focused outlook the NHS seeks in its future workforce.

Variability in student experience stems from many factors, not all within TSCIPP's control. What TSCIPP can influence is the dialogue between what a student hopes to achieve and what the programme delivers. This evaluation identified mentorship and workload as the two areas where expectations and delivery were most often misaligned. For example, in the third year of TSCIPP, each student is allocated a dissertation mentor, but their goals are different. Some aimed to "achieve publications", while others sought "research skills such as critical appraisal and data analysis". Measured by completion, every student succeeded. Measured by outcome, experiences varied far more. Workload followed the same pattern, as each student prioritised their time differently. For some, running the programme "has proven more than worth it", while others prioritised exams, at times leaving responsibility with "one or two individuals". This is consistent with the wider literature. Successful

mentoring relies on clear expectations, shared values and reciprocity between mentor and mentee (23). This creates a natural tension with co-creation, which engages each student differently, making shared expectations harder to establish across a cohort (24). Fundamentally, TSCIPP brings together students with a shared interest in trauma, but each with their own evolving interests, expectations and pathways. Any single new initiative will therefore only ever benefit a subset of students at a given time, leaving the same underlying problem. One possible solution is to extend co-creation to the individual level. This involves each student establishing their own outcomes and building a personalised, yearly adjusted roadmap using TSCIPP's existing resources. This mirrors a well-documented model in postgraduate medical education, the Individualised Learning Plan (ILP), and the broader concept of being a master adaptive learner (MAL), in which trainees cycle through planning, learning, assessing, and adjusting their own goals over time, rather than following a fixed, uniform curriculum (25, 26). Applying this same structure within TSCIPP's existing ecosystem, rather than as an entirely new initiative, would allow the programme to accommodate each student's evolving interests and expectations.

TSCIPP's benefits are not only relevant across the programme, but likely transferable to similar initiatives elsewhere, because spiral learning, experiential learning, co-creation and the ILP/MAL frameworks are all well-documented models in medical education. This suggests that a longitudinal student-led SSC embedded within a specialist clinical environment is a viable model for addressing undergraduate training gaps that conventional SSCs cannot bridge. Beyond TSCIPP, this evaluation contributes evidence to current literature where formal evaluation of longitudinal SSCs remains scarce.

Several limitations should be acknowledged. The small sample size and single-site design prevent generalisability, although this was not an aim of the evaluation. As a retrospective self-report survey, findings are subject to recall bias. Selection bias is also present, as students who withdrew from the programme are not represented and may have had less positive experiences. Despite these limitations, participants had direct longitudinal experience across all four years of the programme, making them the most informed group available to evaluate its impact.

Conclusion

In conclusion, TSCIPP is an effective educational model for trauma and surgical education. The programme integrates successfully into the MBBS curriculum, with benefits sustained well into postgraduate careers. Given its integration of established educational frameworks, TSCIPP is likely replicable in other surgical disciplines. Where student experience varied, this was largely due to mismatched expectations, addressed by extending TSCIPP's existing co-creative structure to an individualised level.

Abbreviations

AFP: Academic Foundation Programme; ATLS: Advanced Trauma Life Support; CPR: cardiopulmonary resuscitation; CROSS: Checklist for Reporting of Survey Studies; CST: Core Surgical Training; ED: emergency department; GEP: Graduate Entry Programme; GMC: General Medical Council; ICU: intensive care unit; ILP: Individualised Learning Plan; IMT: Internal Medicine Training; IQR: interquartile range; MAL: master adaptive learner; MBBS: Bachelor of Medicine, Bachelor of Surgery; NHS: National Health Service; NPT: Normalisation Process Theory; PPIE: patient and public involvement and engagement; SHO: Senior House Officer; SSC: Student Selected Component; TSCIPP: Trauma Sciences and Care of the Injured Patient Programme

Declarations

Ethics approval and consent to participate

This project was approved by the Queen Mary University of London Devolved School Research Ethics Committee (ref DSREC252616_UG2) and conducted in accordance with the Declaration of Helsinki. Participation was entirely voluntary, and completion of the questionnaire implied informed consent to participate

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated and analysed during the current study are not publicly available due to the terms of ethical approval, which restricted data access to the research team. Anonymised data are available from the corresponding author on reasonable request, subject to ethical approval. The full questionnaire is provided in Supplement 3.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

Y.L.K. conceptualised the study, designed the questionnaire, collected the data, performed the data analysis, designed the figures and wrote the original manuscript draft. R.D. supervised the project, contributed to the study design and critically revised the manuscript. E.C. supervised the project, contributed to the study design and questionnaire development, supported data collection, contributed to the interpretation of the findings and critically revised the manuscript. All authors read and approved the final manuscript and agree to be accountable for all aspects of the work.

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Figures

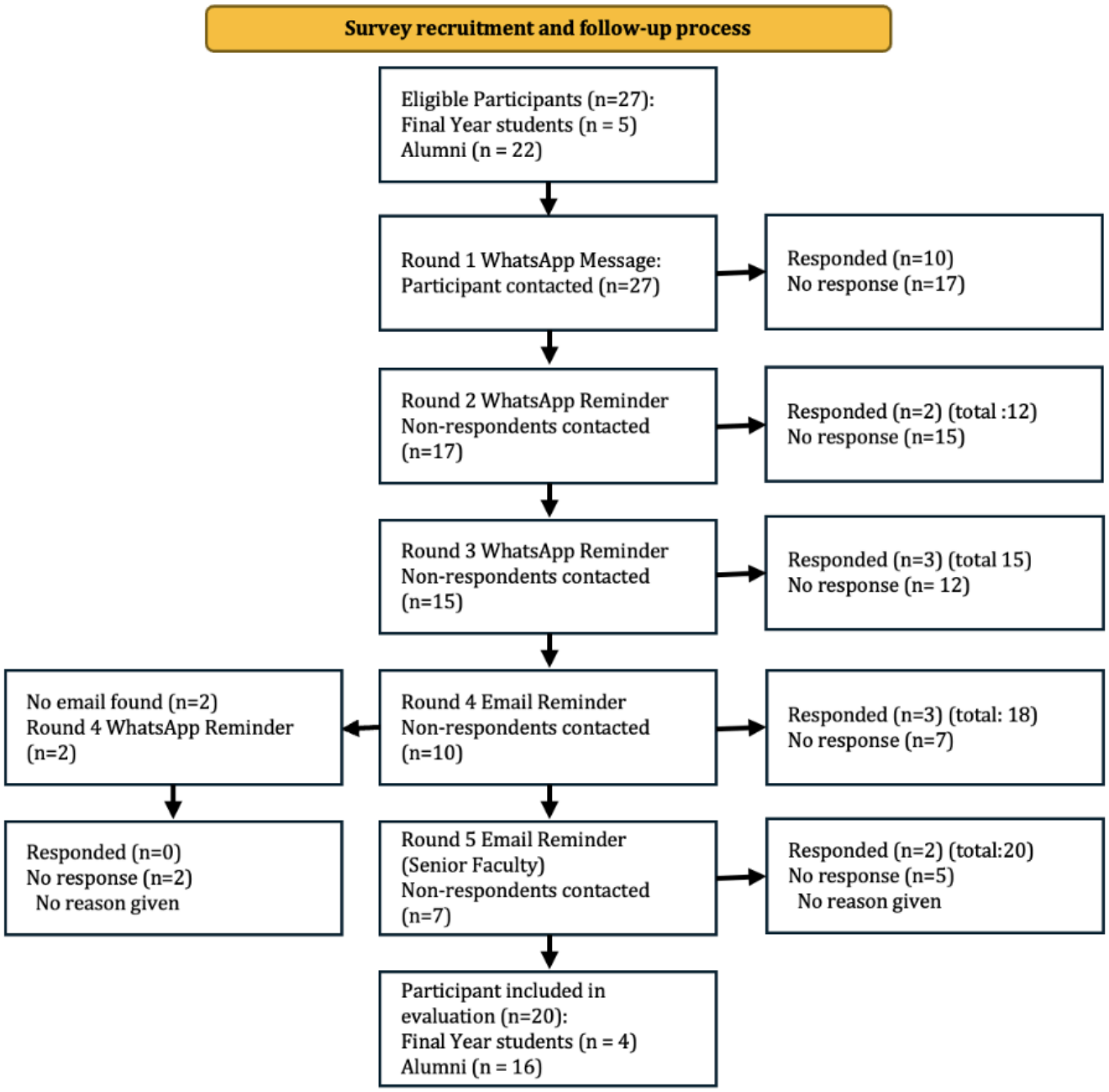

Figure 1

Full Recruitment Flow

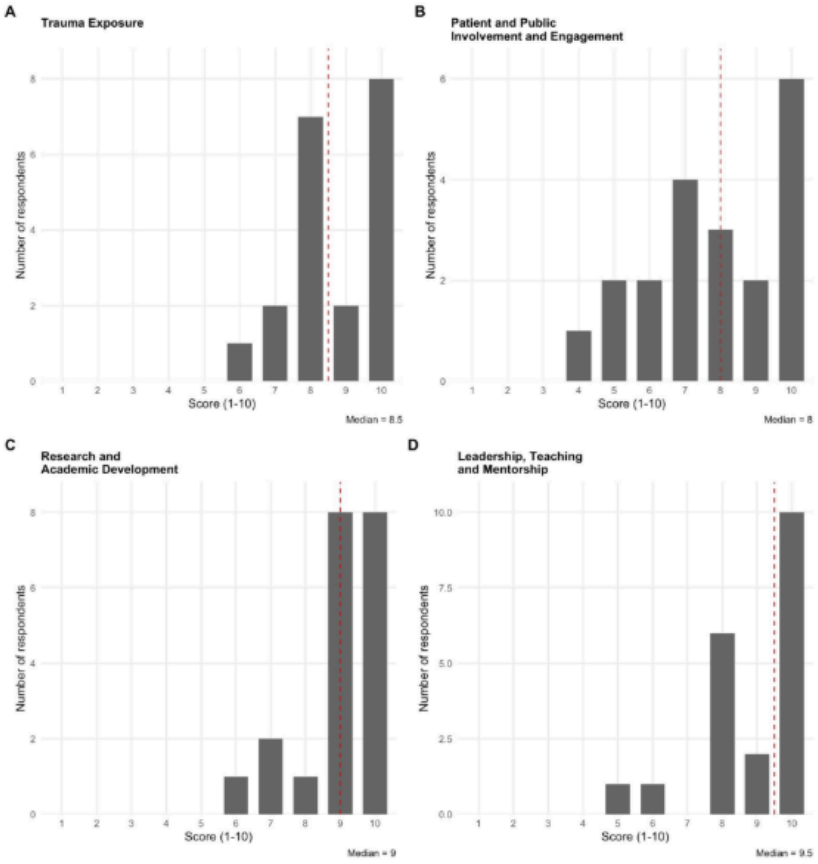

Figure 2

Distribution of respondent scores across the four TSCIPP domains (n = 20). (A) Trauma Exposure, (B) Patient and Public Involvement and Engagement, (C) Research and Academic Development, (D) Leadership, Teaching and Mentorship. Dashed lines indicate the median score for each domain

Supplementary Files

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- SupplementDraft4finals.docx