Journal of Public Health
https://doi.org/10.1007/s10389-025-02567-1

REVIEW ARTICLE

The impact of a multi-agency trauma-informed practice training programme in a region in the United Kingdom

Jane Pepa[1] · **Zara Quigg**[2] · **Nadia Butler**[1] · **Jane Harris**[1]

Received: 29 March 2025 / Accepted: 17 July 2025

Abstract

Aim This research study aims to add to the emerging evidence on the potential value of trauma-informed practice (TIP) training programmes for multi-agency practitioners by examining the associated impact of a UK TIP training programme on practitioner attitudes and knowledge, 6 months post training.

Subject and methods Participants completed pre- and 6-month post-surveys using four of the five subscales of the Survey for Trauma-Informed Systems Change. Multi-agency participants from across Merseyside ($n = 152$) completed pre-surveys, engaged in four TIP training sessions and followed with a post-6-month survey.

Results Analyses of the pre-post study indicate that a four-session TIP training programme for public services and education staff can significantly enhance the individual-level knowledge and attitudes of trainees regarding trauma-informed practices [pre-mean 76.4, post-mean 90.9; $p < .001$; large effect size (d = 1.4)]. Engagement in the training programme was associated with a substantial significant improvement in trainees' understanding of brain physiology and biology in connection to trauma, attachment, and ACEs, as well as their awareness of trauma-informed practices. Further, there were significant improvements in trainees' system-wide attitudes, training, support, interaction, and the environment, assessing safety and acceptance.

Conclusion This study enhances understanding on the influence of TIP training on multi-agency partners including education, health, police, and the public services. However, this training needs to be supported by wider system changes that have clear leadership for embedding a trauma-responsive system, taking into account staffing levels, staff wellbeing, burnout levels and trainees' personal experiences of ACEs/trauma.

Keywords Trauma-informed practice training

Introduction

Globally, adverse childhood experiences (ACEs) and trauma are critical factors that have significant impacts on individuals, families, communities, and society (Bellis et al. 2019. A population wide survey from 24 countries estimated that over 70% of adults have experienced at least one traumatic event, including exposure to violence or injury, or other adversities (e.g. death of a loved one; disasters) (Benjet et al. 2015). International evidence suggests that around a sixth of adults (aged 18 + years) have experienced four or more ACEs (e.g. child maltreatment, and/or growing up in a dysfunctional household) and 70% at least one traumatic event (Benjet et al. 2015). The cumulative impact of ACEs is associated with increased risk of multiple health issues, academic deficiencies, mental health disorders, and violence across the life course (Bellis et al. 2019). Furthermore, they place huge economic impacts on society. Across North America and the European Region, the costs of addressing the life-course impacts of ACEs are estimated to be substantial (US$581 billion in Europe and $748 billion in North America) (Bellis et al. 2023).

To prevent and respond to ACEs and trauma, several countries have begun to develop and implement trauma-informed practices and trauma-informed practice (TIP) training across various settings including education, criminal justice, health, and the third (charity) sector (Lyons 2021; Quigg et al. 2024a, b). Some studies suggest that TIP training can be implemented across multiple agencies and have

✉ Jane Pepa
j.f.pepa@2023.ljmu.ac.uk

[1] School of Public and Allied Health/Public Health Institute, Liverpool John Moores University, Liverpool, UK

[2] Liverpool, UK

Published online: 09 August 2025

positive impacts on practitioners' knowledge, attitudes, and working practices, the systems they work in, and the people they serve (e.g. children, young people, families) (Cole et al. 2009; MacLochlainn et al. 2022; Purtle 2018). For example, a systematic review of trauma-informed organisational interventions, including staff training, suggested positive impacts on staff knowledge, attitudes, and behaviours (with some studies suggesting impacts remained after 1-month follow-up), with a small number of studies ($n=6$) finding statistically significantly improvements for client outcomes (Purtle 2018). However, there remains a paucity of evidence on the impacts of TIP training, particularly in relation to understanding longer-term impacts (Purtle 2018). Understanding the impact of TIP training is further complicated by inconsistencies in training content and delivery (e.g. number of hours of training), and insufficient evidence of what elements of TIP training are most beneficial (McNaughton et al. 2022). This recent literature review highlighted gaps in research on TIP training and education for professionals. Specifically, highlighting the importance of enhancing professional knowledge and practice across settings (e.g. education) to help practitioners recognise and assess signs of traumatic stress and subsequently provide both general support and specific intervention for clients (National Education Association 2023; Purtle 2018), and to evaluate TIP training particular training delivered beyond the health sector (e.g. education, welfare, and justice) (McNaughton et al. 2022).

Across the United Kingdom, several Violence Reduction Units (multi-agency partnerships at police force area level implementing a public health approach to violence prevention) are aiming to prevent and mitigate the impacts of ACEs and trauma through developing ACE and trauma-responsive communities, practitioners, and systems (e.g. Lancashire; Greater Manchester, Wales). The Merseyside Violence Reduction Partnership (MVRP) ACE and Trauma Responsive Work Programme includes three key strands: (1) research to build the evidence on ACEs (Quigg et al. 2025; Wilson et al. 2024) and the impact of prevention programmes (Quigg et al. 2024a, b), (2) advocacy and mobilisation for ACE and trauma-responsive systems, and (3) large-scale TIP training for practitioners from various services (e.g. education, health, local government, third sector) to upskill the workforce. This study aims to add to the emerging evidence on TIP training by examining the impact of the Merseyside VRP-funded TIP training programme for multi-agency practitioners. The study aims are:

- To examine the associated impact of the training on practitioner attitudes and knowledge.
- To explore if the TIP supports the implementation and embedding of change within practitioner working practices and organisational systems.

Methods

Setting and distribution of training

The TIP training programme was open (at no cost) to practitioners from any public service across Merseyside [a region in Northwest England; population 1,442,081 (UK Office of Natioonal Statistics 2022 - *Mid-Year Population Estimates, UK, June 2022*)] and was promoted via regional and local/regional partnerships meetings and communications (e.g. social media). Practitioners booked on the training course using the MVRP website.

The Bee Kind TIPT training programme

The MVRP commissioned Bee Kind to develop and implement a TIP training programme including a series of sessions for multi-agency practitioners across public services in Merseyside. The TIP training aimed to enable practitioners to understand and embed six trauma-informed principles (Understanding Trauma and Stress, Compassion and Dependability, Cultural Humility and Responsiveness, Safety and Stability, Collaboration and Empowerment, Resilience and Recovery) (Cole et al. 2009), with the long-term aim of creating trauma-responsive workforces and organisations that can more effectively improve outcomes for victims/survivors of ACEs/trauma, and support staff who may be directly or indirectly affected by trauma/ACEs (potentially increasing staff well-being, performance and ability to support victims/survivors).

The Bee Kind TIP training model incorporates a range of evidence-based tools, measures, and principles from the literature (see www.beekindtraining.com). Four separate 2-h sessions with at least a week between each session were implemented (in some cases across several weeks), with the training content delivered in-person by formal lecture (using PowerPoint slides) and video aides covering an in-depth understanding of trauma attachment and ACEs. Session one focused on brain development, attachment, behaviour, and play. Session two: the physiological impacts of trauma on the body, sleep, long-term health, and well-being. Session three: how trauma may present in sensory responses, and a case study including domestic violence and Session four: intergenerational trauma, attachment and ACEs, implicit and explicit memory, neuroception, and the six trauma-informed principles (Dorado et al. 2016). The training also included opportunity for reflective practice during the sessions where trainees could discuss in groups key aspects of trauma-informed practice, and case studies where delegates could apply learning and discuss the barriers to embedding trauma-informed practice. Each session was delivered by an education practitioner with expertise in trauma, attachment,

and ACE/trauma informed practices, with a facilitator present to ensure that all delegates had a sense of safety and opportunity to move, discuss, or receive support should they feel triggered by the content. Sessions were delivered in person in various locations around Merseyside.

Study design, participant recruitment, and sample

A pre- and 6-month post-test study design was implemented. Prior to the first training session, the trainer provided trainees with a verbal description of the study; this was followed up with a participant information sheet inviting them to take part in the study (electronic information sheets were also included for trainees completing surveys online). Trainees who consented to take part were invited to self-complete a pre- and post-training survey, either paper-based (delegates without access to electronic device) or online. In total, 1017 staff attended TIP training between October 2023 and May 2024, and of these 152 (14.9%) completed both the pre- and 6-month post-training survey. To enable matching of individual pre- and post-training surveys, survey participants were given an individual code which they added on each of the surveys they completed. Appropriate ethical principles were followed: all participants were provided with a participant information sheet detailing the study and its voluntary nature, and participants could be removed from the study up to the point of analyses. Ethical approval for this study was granted by Liverpool John Moores University Research Ethics Committee (ref: 24/PHI/017).

Measures

Sociodemographics Age (18–20; 21–29; 30–39; 40–49; 50–59; 60 + years), gender (Male; Female, Transgender Male, Transgender female, Non-Binary or Gender Conforming, Other, or Prefer not to say), and highest education level (high school GCSE or equivalent, A Level or equivalent, Undergraduate, Degree Level, Post Graduate, Master or Doctorate).

Survey for Trauma-Informed Systems Change (STISC) To assess changes from pre-training to 6 months post-training, four subscales of the STISC (Moreland Capuia et al. 2022) were implemented in both pre- and post-training surveys: trauma-informed knowledge and attitudes (21 items); system-wide trauma-informed knowledge and attitudes (10 items); training, support, interaction, and environment (five items); and assessing safety and acceptance (23 items). The STISC tool is intended for use with practitioners in any sector or industry (Moreland Capuia et al. 2022). The trauma-informed knowledge and attitudes subscale assesses comprehension of brain physiology and biology relevant to trauma, attachment and ACEs, the effects of trauma, attachment and ACEs on individuals, and awareness of activities influenced by trauma-informed approaches (see Supplemental Tables 1 and 2 at the end of the document). The system-wide trauma-informed knowledge and attitudes subscale assesses individuals' perspectives on the significance of trauma-informed practices for their profession or organisation. The training, support, interaction, and environment questions focus on organisational beliefs and practice and assessing safety and acceptance assess the scale of individual's cultural acceptance (see Supplemental Tables 3 and 4 at the end of the document). Participants are asked to rate their level of agreement with each statement using a five-point scale (1 — strongly disagree; 5 — strongly agree). Cumulative scores were calculated for each subscale, where higher scores corresponded to greater levels of trauma-informed knowledge, attitudes, and practices.

Analyses

Only those participants with matched pre- and post-training data were included in analyses ($n = 152$). For each STISC subscale overall score, paired-sample *t*-tests were used to explore whether significant changes were observed. The effect sizes (d) were calculated using post-hoc tests for the measurement scores, and the magnitude of the effects were determined using Cohen's d (Cohen 1988) categorisation of effect sizes (small, 0.20; medium, 0.50; large, 0.80).

Results

Survey participant characteristics

Table 1 demonstrates the sociodemographic characteristics of trainees pre-training. A large proportion of the trainees were female (78.9%), most were aged 40–59 years (59.1%), and two-thirds (67.8%) of trainees were trained to degree level or above.

Individual level trauma-informed knowledge and attitudes

Pre training, the combined mean score for individual-level trauma-informed knowledge and attitudes was 76.4 (standard deviation [SD] 10.39). Compared to pre-training, post-training scores improved for all sub-scale items (see Supplementary Table S1), with a significant increase in the combined mean score (post-mean = 90.9 [SD 10.17]; $p < 0.001$; large effect size [d = 1.4]; Table 2). This suggests that individual-level trauma-informed knowledge and attitudes improved.

Table 1 Sample sociodemographics

Sociodemographics	% (*n*)
Sex	
Male	20.3 (31)
Female	78.9 (120)
Preferred not to say	0.01 (1)
Age group (years)	
20–29	13.1 (20)
30–39	23.0 (35)
40–49	30.2 (46)
50–59	28.9 (44)
60 +	5 (7)
Education	
High school GCSE equivalent	9.8 (15)
A level/equivalent	15.7 (24)
Undergraduate	6.5 (10)
Degree	30.9 (47)
Postgraduate	15.1 (23)
Masters	21.7 (33)

System-wide trauma-informed knowledge and attitudes

Pre training, the mean score for the overall system-wide trauma-informed knowledge and attitudes subscale was 32.5 (SD 6.06) (Table 2). Compared to pre-training, post-training participants were more likely to agree with all sub-scale items (see Supplementary Table S2), with a significant increase in the combined mean score (post-mean = 34.6 [SD 6.70]; $p < 0.001$; medium effect size [d = 0.5]; Table 2). This suggests that system-wide trauma-informed knowledge and attitudes improved.

Training support, interaction, and the environment

Pre training, the mean score for the overall training support, interaction and the environment subscale was 16.8 (SD 3.11, Table 2). Compared to pre-training, post-training participants were more likely to agree with all sub-scale items (see Supplemental Table S3), with a large significant increase in the combined mean score (post-mean = 18.6 [SD 3.18]; $p < 0.001$; large effect size [d = 0.8]; Table 2), suggesting improvements in training support, interaction and the environment.

Safety and acceptance

Pre training, the mean score for the overall safety and acceptance subscale was 56.2 (SD 6.97, Table 2). Compared to pre-training, post-training participants were more likely to agree with all sub-scale items (see Supplemental Table S4), with a significant increase in the combined mean score (post-mean = 59.9 [SD 7.82]; $p < 0.001$; medium effect size [d = 0.8]; Table 2), indicating improvements in assessing safety and acceptance.

Discussion

This study aimed to add to the emerging evidence on the potential value of TIP training programmes for multi-agency practitioners (MacLochlainn et al. 2022; McNaughton et al. 2022; Quigg et al. 2024a, b). Using a pre-post study design, it presents statistical evidence indicating that a four-session TIP training programme for public services and education staff can significantly enhance the individual-level knowledge and attitudes of trainees with regard to trauma-informed practices. Engagement in the training programme was associated with a substantial significant improvement in trainees'understanding of brain physiology and biology in connection to trauma, attachment, and ACEs, as well as their awareness of trauma-informed practices. Further, there were significant improvements in trainees'knowledge and attitudes system wide, training, support, interaction and the environment, assessing safety, and acceptance.

Across the UK and internationally, TIP training programmes are emerging for multi-agency practitioners, with the focus of such programmes ranging from upskilling the workforce to be 'ACE/trauma aware' to more detailed training to enable them to be responsive to ACEs and trauma.

Table 2 Individual and system wide trauma-informed knowledge and attitudes, pre- and post-training

STISC subscales	*N*	Pre-mean (SD)	Post-mean (SD)	*T*	Two-sided *p*	Cohen's d
Knowledge and attitudes—individual level	152	76.35 (10.39)	90.87 (10.17)	15.035	<.001	1.428
Knowledge and attitudes—system-wide	152	32.52 (6.06)	34.61 (6.70)	4.478	<.001	0.527
Training, support, interaction, and environment	152	16.76 (3.11)	18.59 (3.18)	7.734	<.001	0.800
Assessing safety and acceptance	152	56.16 (6.97)	59.88 (7.82)	7.451	<.001	0.776

This 4-day TIP training programme aimed to focus on providing multi-agency practitioners with the knowledge and skills to move individual staff from being 'ACE/trauma aware' to being ACE/trauma-responsive. Specifically, this was in response to previous research recognising a lack of awareness among stakeholders of the physiological responses to trauma and ACEs across the UK and in Merseyside, and to plug the gaps in knowledge that impede practitioners in recognising the signs and symptoms of primary traumatic experiences in those that they support (e.g. children, young people, and adults) and in the self-care necessary to prevent compassion fatigue in themselves (MacLochlainn et al. 2022). This study suggests that such training is beneficial with significant improvements in knowledge and attitudes across all sub-scales examined and add to previous research through demonstrating longer-term impacts (i.e. 6 months post-training) (MacLochlainn et al. 2022; McNaughton et al. 2022; Quigg et al. 2024a, b).

Whilst positive improvements in trauma-informed knowledge and attitudes were seen across all sub-scales, the study did however find differences in effect size, with a large effect size observed for two subscales (individual level knowledge and attitudes, and training, support, interaction, and environment) and a medium effect size observed for two sub-scales (system-wide trauma-informed knowledge; and attitudes safety and acceptance). Such differences may be expected as the TIP training programme is focused on personal learning and understanding of trauma, attachment and ACEs at a practitioner level. Previous studies into TIP training for police (Quigg et al. 2024a, b) hypothesised other underlying factors that influence how beneficial practitioner-focused TIP training programmes may be at a system-wide level, such as leadership buy-in and promotion of trauma-informed working, overall levels of staffing, levels of staff wellbeing and burnout, and trainees personal experience of ACEs/trauma. System-wide changes to enable the implementation and embedding of trauma-informed and responsive practices requires time, substantial resource, and continued effort. Practitioner level training is one, albeit critical, component in developing and embedding a trauma-responsive workforce. However, this needs to be supported by wider system changes that have clear leadership for embedding a trauma-responsive system, considering staffing levels, staff wellbeing, burnout levels, and trainees'personal experiences of ACEs/trauma (Avery et al. 2020; Cole et al. 2009; Dorado et al. 2016; Hydon et al. 2015). The large-scale implementation of this TIP training programme across a region in the UK shows a clear commitment to becoming a trauma-responsive region (i.e. as of 19th December 2024, 4187 practitioners had completed the TIP training programme); however, our study highlights that system-level changes, and support are needed. For example, individual items on the system-wide subscale suggest that whilst practitioners agreed that their organisations cared about trauma, there was an absence of knowledge in methods to reduce re-traumatisation (pre-mean 4.02, post-mean 4.00; Table S2), and fewer agreed that their organisations had the systems and processes in place that could support a trauma-responsive system (e.g. employee handbook and on-boarding material referencing trauma and TIP; pre-mean 2.65, post-mean 3.02; Table S2).

The conclusions of this study should be acknowledged with an awareness of its limitations. Whilst this study used match-paired analysis of pre- and post-surveys, it did not have a control group as this was a self-selecting sample of public-service delegates attending the training from across the region. Further, delegates were only from one UK region (i.e. Merseyside) and represent a small sample size of 152 from the 1017 who completed the training; thus, findings should not be extrapolated to a wider population. Despite this, the study provides useful information to support wider emerging evidence on the implementation and impact of TIP training programmes.

In conclusion, the study underscores the importance of TIP training programmes in improving individual knowledge and attitudes while pointing out the challenges and limitations in achieving system-wide change. These findings and wider literature suggest that future efforts to upskill the workforce need be supported by a system-wide work programme that focuses on leadership engagement, and structural workforce support for long-term implementation of trauma-responsive systems. This study enhances the data about the impact of TIP training for multi-agency partners including education, health, police, and the public services. Further evidence is needed however to determine the impact this has on the workforce, the community, the families, and the children and young people they serve.

Supplementary information The online version contains supplementary material available at https://doi.org/10.1007/s10389-025-02567-1.

Author contributions JP designed the study, collected and analysed the data, and drafted the manuscript. ZQ/NB contributed to study design, data analyses, and manuscript drafting. JH contributed to manuscript editing. All authors reviewed and approved the final manuscript.

Funding Funded by Merseyside Violence Reduction Partnership.

Data availability SPSS files available upon reasonable request.

Code availability Not applicable.

Declarations

Ethics approval Liverpool John Moores University (ref: 24/PHI/017).

Consent to participate: given by all participants.
Consent for publication: given by all participants.

Ethical statement Permission to conduct this research was gained by all respondents who were fully informed of how their responses would be used and stored. All responses were anonymised, and the study was

performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki. Ethical approval for this study was granted by Liverpool John Moores University Research Ethics Committee (ref: 24/PHI/017:) Participation was voluntary and all consent implied by completion of the questionnaire.

Conflicts of interest/Competing interests Jane Pepa is the Director of Bee Kind Training Ltd and was commissioned by the MVRP to write and deliver the TIP training. The remaining authors have no conflict of interest to declare.

References

Office for National Statistics (2022) Mid-Year Population Estimates, UK, June 2022. Office for National Statistics, Newport, South Wales, UK. Retrieved 3 May 2024. https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/timeseries/ukpop/pop.

Avery JC, Morris H, Galvin E, Misso M, Savaglio M, Skouteris H (2020) Systematic review of school-wide trauma-informed approaches. J Child Adolescent Trauma 14(3):381–397. https://doi.org/10.1007/s40653-020-00321-1

Bellis MA, Hughes K, Ford K, Rodriguez R, Sethi D, Passmore J (2019) Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: a systematic review and metaanalysis. Lancet Public Health 410:e517–e528. https://doi.org/10.1016/S24682667(19)301458Accessed14Feb2025

Bellis MA, Wood S, Hughes K, Quigg Z, Butler N (2023) Tackling adverse childhood experiences (ACEs) state of the art and options for action. Piublic Health Wales, Cardiff. https://www.ljmu.ac.uk/-/media/phi-reports/pdf/2023-01-state-of-the-art-report-eng.pdf.

Benjet C, Bromet E, Karam E, Kessler R, Ruscio A, Shahly V, Stein D, Petukhova M, Hill E, Alonso J, Atwoli L, Bunting B, Bruffaerts R, Girolamo C, de Gureje O, Huang Y, Koenen K (2015) The epidemiology of traumatic event exposure worldwide: results from the World Mental Health Survey Consortium. Psychol Med 46(2):1–17

Cohen J (1988) Statistical power analysis for the behavioral sciences. 2nd ed. Routledge, Abingdon, UK

Cole S, O'Brien G, Gadd J, Gregory J (2009) Helping traumatized children learn: supportive school environments for children traumatized by family violence. Massachusetts Advocates for Children, Boston MA, USA.https://traumasensitiveschools.org/wp-content/uploads/2013/06/Helping-Traumatized-Children-Learn.pdf. Accessed 21 Sep 2024

Dorado JS, Martinez M, McArthur LE, Leibovitz T (2016) Healthy environments and response to trauma in schools (HEARTS): a whole-school, multi-level, prevention and intervention program for creating trauma-informed, safe and supportive schools. Sch Ment Heal 81:163–176

Hydon S, Wong M, Langley AK, Stein BD, Kataoka SH (2015) Preventing secondary traumatic stress in educators. Child Adolesc Psychiatr Clin N Am 24(2):319–333

Ashton M (2024) State of health in the city: Liverpool 2040. Liverpool City Council, UK. https://liverpool.gov.uk/council/public-health-liverpool/state-of-health-in-the-city/

Lyons S (2021) Trauma-informed care in schools: perspectives of rural school district employees after trauma-informed care training. Georgetown University, Washington DC

MacLochlainn J, Kirby K, McFadden P, Mallett J (2022) An evaluation of whole-school trauma-informed training intervention among post-primary school personnel: a mixed methods study. J Child Adolesc Trauma 15(3):925–941

McNaughton KM, Isobel S, Phelan L, Quilty E (2022) Trauma-informed training and education for professionals in Australia: a scoping review. J Mental Health Train Educ Pract 17(6)

Moreland-Capuia A, Dumornay NM, Mangus A, Ravichandran C, Greenfield SF, Ressler KJ (2022) Establishing and validating a survey for trauma-informed, culturally responsive change across multiple systems. J Public Health 33(1):263–263

National Education Association (2023) Trauma-informed schools. NEA, Washington DC. www.nea.org. https://www.nea.org/professional-excellence/student-engagement/trauma-informed-schools

Purtle J (2018) Systematic review of evaluations of trauma-informed organizational interventions that include staff trainings. Trauma Violence Abuse 214:152483801879130

Quigg Z, Harrison R, Harris J, Butler N, Bates R, Timpson H (2024a) Drivers to implementing a whole-system approach to enquiring about adverse childhood experiences: a mixed methods evaluation from a single county in England. Child Abuse Negl 155:106983–106983

Quigg Z, Wilson C, McCoy E, Butler N (2024b) The impact of adverse childhood experience and trauma-informed practice training for police in two regions in the United Kingdom. Police J 98(1)

Quigg Z, Butler N, Wilson C, Farugia A, Bates R, O'Driscoll G, Millings M and Bellis M (2025) The merseyside violence and community safety (MerVCom) survey. A representative household survey of adults to understand community safety and cohesion, violence victimisation, and adverse childhood experiences. Public Health Institute, Liverpool John Moores University/Merseyside Violence Reduction Partnership, Liverpool

Wilson C, Butler N, Quigg Z, Moore D, Bellis M (2024) Relationships between neurodivergence status and adverse childhood experiences, and impacts on health, wellbeing, and criminal justice outcomes: findings from a regional household survey study in England. BMC Med 221:592. https://doi.org/10.1186/s12916024038211