The effect of school climate on trauma responses in young people exposed to ethnic-political violence in Palestine

And clinical research portfolio

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Submitted in partial fulfilment of the requirements for the degree of

Doctorate in Clinical Psychology

School of Health and Wellbeing

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September 2022

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Acknowledgements

I would like to give a special thank-you to the participants of this study who dedicated their time and shared their experiences. I would also like to thank them for giving permission for their experiences to be shared across countries. Without this knowledge I would have been unable to explore this area, which I hope will be useful and relevant to them.

I would like to thank Dr Caesar Hakim and his research team at the Guidance and Training Centre for giving me permission to use their data for this project. I hope I have completed something which is meaningful and useful for ongoing research in this area.

Thank you to my wonderful university supervisors, Professor Hamish McLeod and Dr Karen McKeown. Thank-you to Hamish for offering me such an interesting topic, which has provided a lot of reflection and growth for me both personally and professionally. As well as helping me find my way back after getting lost in analysis! Thank-you to Karen, for being a constant throughout my training and providing an open space for me to share my thoughts.

I would like to thank Jenny McGhie for her patience and generosity in guiding me with my systematic review strategy and searches, whose friendliness and support was very much appreciated in helping me find my way through the unknown!

I am grateful to my fellow trainee Hannah Carr for her assistance with the systematic review and for our multiple meetings of support and guidance which kept me motivated.

I am also grateful to all of the clinical supervisors I have had across my psychology career so far. I have learnt so much from each and every one of you. Special mention goes to Dr Helen Pulford for her support and reassurance throughout my final year.

Finally, I have been fortunate to have an extremely supportive team of family and friends who have helped me throughout my training (and life!). You mean everything to me.

Foreword

This foreword has been included to provide context regarding the circumstances which led to the change of the major research project and subsequently the area of focus for the whole thesis. The original project was regarding exploring Quality of Life outcomes in a looked after and accommodated population of young people in secure care. However, for unforeseen reasons this project could not proceed and therefore the current project was agreed.

The Major Research Project proposal submitted for marking to the university was developed for the original project, while the current project proposal was not formally submitted for marking. Therefore, both proposals are included in the appendices for reference (Appendix 1, Page 101 and Appendix 2, Page 102).

Chapter 1: Systematic Review

The effect of school climate on negative psychosocial outcomes for young people exposed to ethnic-political violence: A Systematic Review

Prepared in accordance with the author requirements for Frontiers: Psychology for Clinical Settings Frontiers | Author guidelines (frontiersin.org)]

Abstract

Background: Inter-ethnic and political conflicts are ongoing in many regions around the world. Young people who are exposed to ethnic-political violence may suffer from mental health needs. Research has shown that a positive school climate mitigates negative psychosocial outcomes for young people. There is limited research on the role of school climate as a resilience factor for young people experiencing ethnic-political violence. Findings have yet to be synthesized to form conclusions about the extent of these associations. Moreover, the differences in conceptualising and measuring school climate and negative psychosocial outcomes are extremely varied.

Objective: To systematically review the published peer-reviewed research addressing the effect of school climate on negative psychosocial outcomes for young people exposed to ethnic-political violence.

Methods: Ovid MEDLINE, PsycINFO and ERIC databases were searched. Six eligible studies were identified, and exposure to ethnic-political violence, the concept of school climate and negative psychosocial outcomes were measured, compared and included in a narrative synthesis. The CCAT critical appraisal tool was used to assess quality and bias.

Results: This review identified six key studies of good quality who have demonstrated evidence that the concept of school climate is associated with negative symptoms of psychosocial functioning. This review focused specifically on PTSD symptoms, depressive symptoms and emotional dysregulation and found that a positive school climate, is related to lower levels of these symptoms.

Conclusions: This review highlights that there needs to be further exploration of the latent construct of school climate in these diverse populations and development of appropriate measures.

Introduction

Psychosocial impact for young people exposed to ethnic-political violence

Inter-ethnic and political conflicts are ongoing in many regions around the world. Young people who are exposed, either directly or indirectly, to violence attributable to ethnic or political conflict[1] may suffer from a lengthy list of physical impairments, cognitive difficulties, emotional distress, and mental health disorders in both the short- and the long terms. Negative psychosocial impacts can include emotional numbing, depression, a sense of alienation and avoidance, intrusive thoughts, changes in attitudes and beliefs, disturbed sleep and nightmares and hypervigilance (Leavitt & Fox, 2014, Garbarino et al., 2015). Attanayake and colleagues (2009) conducted a meta-analysis of 17 studies (n=7920) which found that there is a higher prevalence of mental disorders among young people exposed to conflicts than among the general population. Of which, post-traumatic stress disorder (PTSD) was found to be one of the primary outcomes which appeared in 4.5% to 89.3% of young people, with an overall estimate of 47%, compared to 6.3% in peacetime populations (Kolltveit et al., 2012).

School Climate as a protective factor

The risk and protective factor model of developmental psychopathology (Garmezy & Nuechterlein, 1972; Rutter, 1990) has been the main framework for identifying ecological and individual factors that place young people at risk for developing psychopathology and factors which promote resilience (Dubow et al., 2012). Resilience is a dynamic process which relates to effective coping and adaptation when faced with significant threat or adversity (Luthar, Cicchetti, & Becker, 2000). Risk and protective factors may be intra-individual (e.g. beliefs, coping skills) and external (e.g. social support, structural, systemic).

A positive school climate is an external environmental influence on wellbeing which has the potential to promote adolescent mental health and wellbeing and has been gaining attention as a factor protecting against the impact of exposure to ethnic-political violence (Yablon, 2015). The large amount of time that young people spend in school makes schools a practical context

[1] for a review of the concept of ethnic-political violence see: Ladd & Cairns, 1996

for reaching young people for prevention, intervention, and care (Soutter, 2011; Mulloy & Weist, 2013).

However, a broad consensus of the definition of school climate has been challenging (Wang & Degol, 2016; Astor and Benbenishty, 2018; Zullig, Matthews-Ewald & Huebner, 2021). Following an extensive review of the climate literature and definitions, the National School Climate Council (NSCC) proposed a definition that has been cited extensively (Astor and Benbenishty, 2018). According to this definition, school climate consists of (a) safety (emotional and physical and clear norms); (b) teaching and learning (strategies promoting social and civic learning opportunities and skills); (c) relationships; and (d) the institutional environment (including physical surroundings, resources and supplies, and a sense of connectedness and engagement to the school) and staff environment (e.g., positive attitudes and relationships among school staff members that support effectively working and learning together) (NSCC, no date cited in Astor and Benbenishty, 2018). The advantage of the NSCC definition is that it is very inclusive and comprehensive, however this could cause difficulties when trying to measure it for research (Astor and Benbenishty, 2018).

Alridge and McChesney (2018) completed a systematic review on school climate and adolescent mental health and wellbeing (not covering the impact of ethnic-political violence). They found a sizeable body of evidence that school climate is related to young people's mental health. They identified four sub-constructs of school climate: social connectedness/relationships; school safety; school connectedness; and the academic environment which generally aligned with sub-constructs reported by Cohen and colleagues (2009), Thapa and colleagues (2013), Kutsyuruba and colleagues (2015), and Wang and Degol (2016). They found that these sub-constructs of school climate were associated with increases in adolescents' psychosocial wellbeing and pro-social/preventative behaviours and decreases in the prevalence of mental health issues and risk behaviours. However, they found that across studies, the concept of school climate and psychosocial outcomes are not interpreted or used consistently (Alridge and McChesney, 2018).

A recent systematic review focused on exploring the construct of school climate in low- and middle-income countries (LMICs) (rather than high-income countries) and how it may be associated with young people's socio-emotional, behavioural, and academic outcomes (Larson et al., 2020). They identified 35 studies, reflecting the following World Bank regions (The World Bank, 2019a, 2019b cited in Larson et al., 2020): Latin America and the Caribbean (n = 6); Europe and Central Asia (n = 10); Sub-Saharan Africa (n = 14); East Asia and Pacific (n = 5); South Asia (n = 1); and Middle East and North Africa (n = 8). This review also found that there was a lack of consensus in the research around what constitutes or how to measure school climate, but consistent associations with socioemotional, behavioural, and academic outcomes were found. They suggested that additional work is needed to increase the rigor of school climate research and its impact in LMICs. Due to the limited understanding of the construct of school climate in non-Western countries/LMICs, this review aims to further explore this area but with a focus on the impact of school climate amidst a context of ethnic-political violence.

A metaphor of "real" climate (i.e. weather) is helpful to compare the multi-dimensional construct of school climate. We know the components of weather (e.g. sun, rain, wind, snow) and we know how to measure and describe these features (e.g. barometric pressure, temperature). However, we also know that "climate" is not the same across countries. A measure of climate in Morocco that focuses on measures of snow, ice, and sub-zero temperatures will be useless but that doesn't mean that Morocco does not have a climate that affects the population. Similarly, to measure school climate we need to consider the most suitable components for each individual country/population to ensure we are measuring the correct aspects.

Based on these reviews and empirical studies, school climate is emerging as a multi-dimensional construct that has features across studies such as school safety, supportive academic environment, social connectedness/relationships and the institutional environment/school connectedness. Although there is not universally accepted definition, for this review we will use the definition by the NSCC which proposes school climate consists of 'safety', 'teaching and learning', 'relationships', and the 'institutional environment'.

School climate protecting against the impact of exposure to ethnic-political violence

Irrespective of how school climate is defined and measured, there is limited research on the role of school climate as a resilience factor for young people experiencing ethnic-political violence (Yablon, 2015). Young people's experiences in school shape many aspects of their life and their development (OECD, 2013 cited by Yablon, 2015). Studies focusing on the relation between exposure to violence and school climate have generally shown a meaningful effect of various aspects of the school climate (e.g., teacher support, school connectedness and school safety) on young people's resilience. These studies focused mainly on violence within schools and between young people (Kasen et al., 2004). Studies on other forms of violence against young people (e.g., abuse, neglect, crime in the neighbourhood), also showed that a positive school climate plays an important role in young people's welfare, wellbeing, and resilience (e.g., Bender, 2012; Thapa et al., 2013).

With the rising interest in the impact of school climate on negative psychosocial outcomes for young people who are exposed to ethnic-political violence there has been a number of studies exploring this concept in these environments. Relevant findings have yet to be synthesized to form conclusions about the extent of associations between school climate, negative psychosocial outcomes and exposure to ethnic-political violence. Moreover, the differences in conceptualising and measuring school climate and negative psychosocial outcomes are extremely varied. This review aimed to focus on the impact of school climate on trauma symptoms, specifically within an ethnic-political violence context, with an aim to identify potential avenues for treatment development. To widen the scope of the review, studies which measured negative symptoms of psychosocial functioning were included (e.g. depressive symptoms, difficulties with emotional regulation and behavioural regulation, as well as trauma symptoms). Positive post-trauma symptoms (e.g. Post-Traumatic Growth (PTG) and self-efficacy) do not require treatment, and therefore were outside the aims of this review and were removed.

Aims and research questions

Given the emerging evidence that school climate is a relevant factor in understanding young people's mental health and the understanding that schools may provide a place of stability and safety when young people are exposed to ethnic-political violence, this systematic review aims to synthesise the available research to address the following questions.

(1) What is the evidence that school climate is associated with negative symptoms of psychosocial functioning, for young people, who have been exposed to political violence/armed conflict?
(2) How is school climate operationalised and measured across studies in different cultural and linguistic contexts?
(3) How are psychosocial outcomes measured (for example, trauma specific outcomes or emotional dysregulation)?

Methods

Information Sources

This review was informed by the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines, which detail 27 items that should be reported to demonstrate the quality and transparency of systematic literature reviews (Page et al., 2021). Studies were identified by searching electronic databases, examining forward citation (using Google scholar) and reference lists of included studies. The search was applied to the following databases on the Ovid platform: Ovid MEDLINE (R) (searched from 1946 to 27th June 2022), PsycINFO (searched from 1806 to June Week 3 2022) and ERIC (searched from 1965 to April 2022). All databases were searched on the same day (28th June 2022) using subject headings and keywords (from the title, abstract and keyword).

The following search terms were used:

(1) ((school* or classroom*) adj2 (saf* or connect* or experience* or environment* or climate* or belonging or support))

(2) refugee* OR ((war or wars or political* or ethno*) adj2 violence) OR ((armed* or political* or ethno* or violen* or zone*) adj2 conflict* OR terror*

(3) (PTSD or posttrauma* or post-trauma*) OR ((psychosocial or psychological or socio?emotional) adj2 (adjust* or outcome* or functioning or development))

These searches were conducted separately and then combined (1 AND 2 AND 3). The final search strategy was individualised to ensure suitability across databases (Appendix 3, Page 103) and was developed with the support of a librarian.

Eligibility criteria

Inclusion criteria

Papers were included if they met the following criteria:

(1) Reported primary research that related one or more aspects of school climate to one or more aspects of psychosocial outcomes of young people

(2) Young people had been exposed to ethnic-political violence

(3) Studies from peer-reviewed journal articles

(4) Full text articles

No inclusion criterion for age of participants was specified as the measure of school climate restricted the population to school age young people. No restriction was placed on publication date.

Exclusion criteria:

(1) Qualitative, theoretical or intervention study designs

(2) Did not include negative symptoms of psychosocial functioning for young people (e.g., the only outcomes were related to academic outcomes, student physical health or teacher outcomes)

(3) Did not examine links between school climate and psychosocial outcomes

(4) Young people not exposed to ethnic-political violence

(5) Grey literature (e.g., conference papers, unpublished studies)

(6) Written in a language other than English

Screening for eligibility

Search results were combined in RefWorks, transferred to Rayyan (Ouzzani et al., 2016) and duplicates were removed. Stage 1: Articles were screened for suitability, by title and abstract alone, by the lead author based on eligibility criteria. Stage 2: Remaining studies were screened by reading their full text by the lead author and a random 10% were eligibility assessed by an independent reviewer. Any disagreements were resolved through discussion between the lead author and independent reviewer, using a third reviewer to decide if no agreement could be reached.

Data extraction process

Stage 3: Data extraction from all eligible studies. This involved extracting key attributes of each article into an Excel spreadsheet which was piloted on one randomly selected paper and adapted accordingly. The following attributes were recorded for each study: citation details; source (database); journal discipline; country in which the research was conducted; gender, age and grade of participants; number of participants (including final participation rate); number of schools; school type (public, private or both); demographic locality (city, village, refugee camp); research design; sampling design; data collection period; procedure; the variables, and instruments used to measure aspects of school climate, psychosocial outcomes and exposure to ethnic-political violence. In addition, a summary of overall findings of each study, focusing on the presence and nature of any links found between school climate and psychosocial outcomes, as well as the limitations of the study were collated.

Risk of Bias and Critical Appraisal

Stage 4: Critical appraisal of all eligible studies. To assess the risk of bias and validity of results in individual studies, a risk of bias appraisal tool was applied to included papers. Given the heterogeneity in research designs eligible for inclusion, the Crowe Critical Appraisal Tool (CCAT) was selected (Crowe & Sheppard, 2011) as it allows scores to be flexibly applied across study designs. The CCAT has good construct validity, with moderate to strong correlations with other critical appraisal tools for quasi-experimental, descriptive, exploratory, observational, qualitative, and systematic review designs (Crowe & Sheppard, 2011). It has also shown high inter-rater reliability when research designs were pooled, and a moderate correlation for descriptive, exploratory, or observational research designs (Crowe, Sheppard & Campbell, 2012). Each paper was assigned a total score out of 40 and there are no criterion cut offs. However, a percentage is calculated where high percentages can indicate higher quality. However, when reporting an appraisal using the CCAT, the score obtained in every category must be stated along with the total score and total percentage score. This prevents poor quality issues being masked by a higher score and the appraiser should highlight these findings. The lead author rated all papers and one was co-rated by an independent reviewer (a Trainee Clinical Psychologist). A threshold of 3 points in either direction was determined as a level of agreement in the overall risk of quality and bias rating as this represented a discrepancy of less than 10%. Where scores deviated beyond this, agreement was reached through discussion between raters using the CCAT user guide.

Synthesis of Results

Stage 5: The synthesis process. This involved making sense of study findings in comparison to one another and integrating this with the quality data from the CCAT to arrive at a balanced conclusion about the current meaning and quality of the literature. Results are described using a narrative synthesis (based on guidance from Popay and colleagues, 2006), which primarily relied on the use of words and text to summarise the findings due to the measures being too diverse to yield a meaningful summary estimate of effect. The narrative synthesis included investigation of the similarities and differences between the findings of different studies, as

well as exploration of patterns in the data. Key findings were extracted from each of the articles and are presented along with risk of bias ratings.

Results

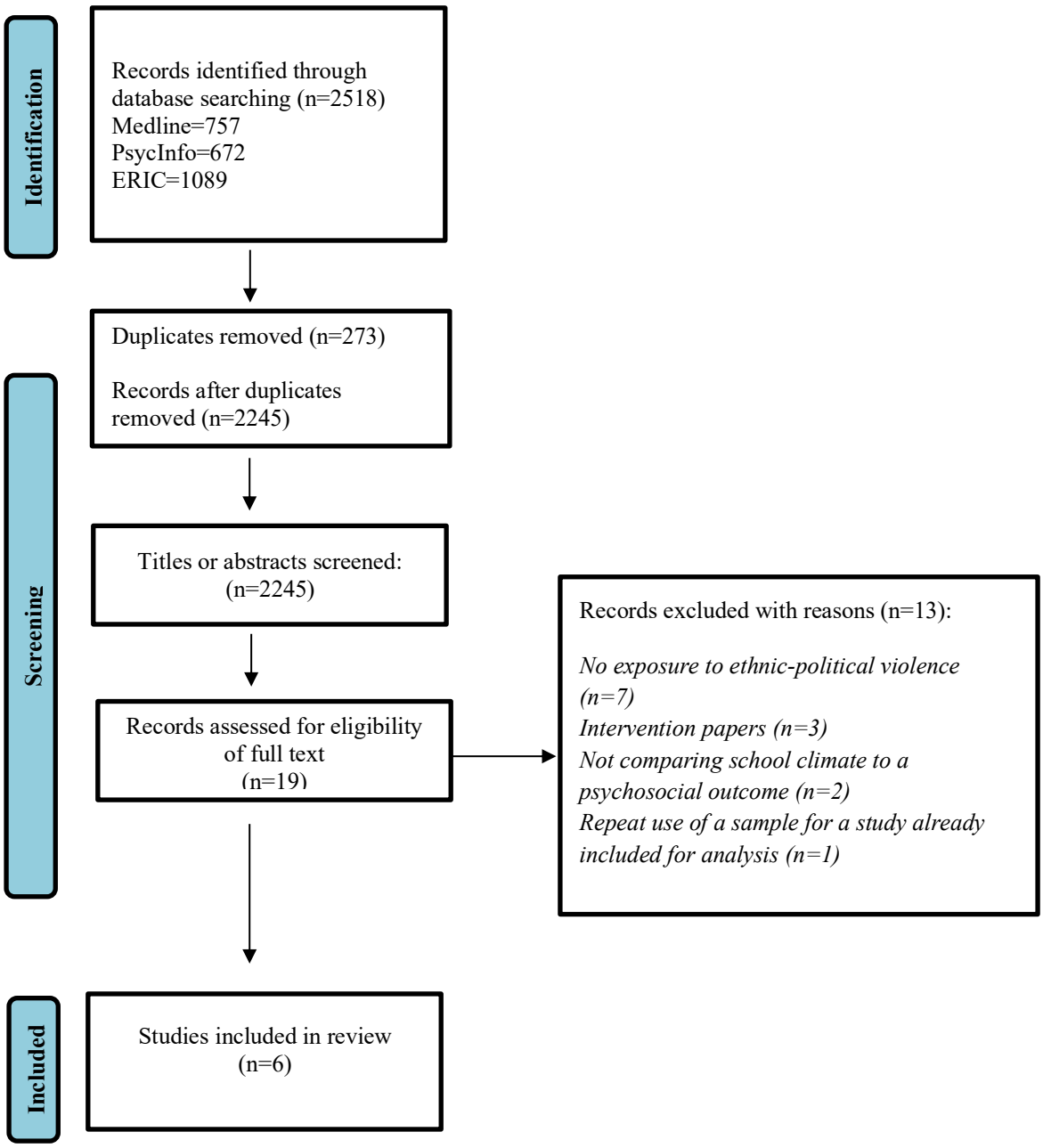

Figure 1. PRISMA Flow chart of final study selection

Figure 1 illustrates the selection process for included studies. A total of six eligible peer-reviewed journal articles were included in the final review. An overview of the key study characteristics, measures and findings are outlined in Tables 1, 2 and 3.

Study Characteristics

The key six papers included a total number of 2746 participants with a wide range from 76 to 1000 participants overall. The selection includes research across five countries: Israel (3), Jordan (1), Lebanon (2) and USA (1). All six studies examined the effect of school climate on psychosocial outcomes for young people exposed to political violence. All studies used a cross-sectional design (Kanj & Khamis, 2021, Kia-Keating & Ellis, 2007, Khamis, 2019, Yablon, 2015, Yablon, 2019, Yablon & Itzhaky, 2021). All but one study measured school climate and psychosocial functioning using self-report measures, with the exception of one study which used a clinical interview to assess diagnosis of PTSD (Khamis, 2019).

Table 1: Summary of key study characteristics

Author, Year	Country conducted	Study design	Number of participants (participation rate %)	Age	Gender	Number of schools
Kanj & Khamis (2021)	Lebanon (Syrian refugees)	Cross-sectional	410 (+90%)	8 -16 years (M=11.67; SD=1.50)	222 females (54.1%) 188 males (45.9%)	5 schools
Kia-Keating & Ellis (2007)	USA (Somali Refugees)	Cross-sectional	76	12-19 years (M=15.6, SD=2)	35 females (46%) 41 males (53.9%)	Not stated
Khamis (2019)	Lebanon and Jordan (Syrian refugees)	Cross-sectional	1000 (500 from each country)	7–18 years (M=11.30; SD=2.65)	539 females (53.9%) 461 males (46.1%)	10 schools were randomly selected from Beirut, Bekaa, and Mount Lebanon and 10 schools from Amman, Zarqa, and Balqa
Yablon (2015)	Israel	Cross-sectional	600 sampled. 548 (92%) contacted. 540 (90%) parents consented. 534 (89%) participated.	14-18 years (M=16.12, SD=1.21)	53% females 47% males	24 Jewish secondary public schools
Yablon (2019)	Israel	Cross-sectional	609 (81-94%)	152 (M=14.61; SD =0.46) 9th graders, 158 (M=15.70; SD=0.42) 10th graders, 151 (M=16.85; SD =0.45) 11th graders, and 148 (M=17.60; SD=0.47) 12th graders	327 females (53.7%) 281 males (46.1%) 1 who did not indicate gender (0.2)	42 Jewish secondary public schools. 9-17 participants from each school.
Yablon & Itzhaky (2021)	Israel	Mixed-methods sequential explanatory design: quantitative and qualitative data in two consecutive phases.	117 (76%)	M=14.54; SD=1.49	52% female 48% male	24 public secondary schools

Table 2: Summary of key study measures

Author, Year	Source and type of school climate measure	School climate measure	Predictor/School Climate Operationalisation	Source and type of negative psychosocial outcome measure	Psychosocial outcomes measure	Source and type of exposure to ethnic-political violence measure	Exposure to ethnic-political violence measure
Kanj & Khamis (2021)	Original	Classroom Environment Scale (CES) Cronbach's α=0.80 (Khamis, 2009), Cronbach's α= 0.79 (this sample)	Social support provided by teachers; social support received from peers and friends; use of educational resources and activities; and satisfaction with the classroom's physical environment.	Validated translated measure	Strengths and Difficulties Questionnaire (SDQ) Cronbach's α=0.87.	Syrian refugees fleeing civil war	None
Kia-Keating & Ellis (2007)	Original	Psychological Sense of School Membership Scale (PSSMS): measure of a young person's sense of school belonging. Test–retest reliability across a 4-week period was good (r= .88) and internal consistency was high. Cronbach's α range from .71 to .88 in previous studies.	N/A	Original	UCLA PTSD Index for DSM-IV (PTSD-I) adolescent version. PTSD severity score and PTSD severity subscores for symptoms of re-experiencing, avoidance, and increased arousal. Strong convergent validity, high internal consistency (Cronbach's α ranging from .88 to .92) and a test–retest reliability coefficient of .84 on previous samples.	Adjusted. 26 items chosen due to relevancy (from original 72 items)	War Trauma Screening Scale (WTSS). No internal consistency reported for this sample.
				Original	Depression Self-rating Scale (DSRS). Demonstrated high internal consistency, adequate psychometrics, used with diverse populations.		

Author, Year	Source and type of school climate measure	School climate measure	Predictor/School Climate Operationalisation	Source and type of negative psychosocial outcome measure	Psychosocial outcomes measure	Source and type of exposure to ethnic-political violence measure	Exposure to ethnic-political violence measure
Khamis (2019)	Original	School Environment Scale (SES) Cronbach's α for the total scale is.87.	N/A	N/A	PTSD assessed by structured clinical interview using the diagnostic criteria in the DSM-IV.	Adapted. Two items changed to reflect the refugees' experiences	Trauma Exposure Scale. Cronbach's α=0.85.
				Original	Difficulties in Emotion Regulation Scale Short Form (DERS-SF). Six dimensions: lack of awareness of emotional responses, lack of clarity of emotional responses, non-acceptance of emotional responses, limited access to emotion regulation strategies perceived as effective, difficulties controlling impulses when experiencing negative emotions, and difficulties engaging in goal-directed behaviours when experiencing negative emotions. Excellent psychometric properties. Cronbach's α =0.84.		

Author, Year	Source and type of school climate measure	School climate measure	Predictor/School Climate Operationalisation	Source and type of negative psychosocial outcome measure	Psychosocial outcomes measure	Source and type of exposure to ethnic-political violence measure	Exposure to ethnic-political violence measure
Yablon (2015)	CSCSS was translated into Hebrew and adjusted to the Israeli school system	School Climate measure created by Israeli National Authority for Measurement and Evaluation in Education (based on the California School Climate and Safety Survey (CSCSS)).	Teacher support (Cronbach's α =.90). Students' participation (Cronbach's α = .74). School policy (Cronbach's α = .89). School connectedness (Cronbach's α = .76). School facilities (Cronbach's α = .84). School safety (Cronbach's α = .86). School/class attendance (Cronbach's α N/A).	Translated to Hebrew	Child Post Traumatic Stress Reaction Index (CPTS-RI). High reliability and validity. Cronbach's α = .91.	Original survey	12-item checklist of types of exposure to violence (Itzhaky & Dekel, 2005). Cronbach's α = .78

Author, Year	Source and type of school climate measure	School climate measure	Predictor/School Climate Operationalisation	Source and type of negative psychosocial outcome measure	Psychosocial outcomes measure	Source and type of exposure to ethnic-political violence measure	Exposure to ethnic-political violence measure
Yablon (2019)	CSCSS was translated into Hebrew and adjusted to the Israeli school system	School safety subscale of the School Climate measure created by Israeli National Authority for Measurement and Evaluation in Education (based on CSCSS). Cronbach's α = .89.	School safety and school connectedness (measured by two separate adapted measures)	Translated to Hebrew	CPTS-RI. High reliability and validity. Cronbach's α = .91.	Original survey	12-item checklist of types of exposure to violence (Itzhaky & Dekel, 2005). No internal consistency reported.
	Adapted from the National Longitudinal Study of Adolescent Health.	Four items of the School Connectedness Scale (SCS). Items regarding school safety were excluded to avoid multicollinearity with the school safety measure. Cronbach's α = .89.					
Yablon & Itzhaky (2021)	CSCSS was translated into Hebrew and adjusted to the Israeli school system	School Climate measure created by Israeli National Authority for Measurement and Evaluation in Education (based on CSCSS). No validity/reliability	Teacher support (Cronbach's α = .90). Students' participation (Cronbach's α = .88). School policy (Cronbach's α = .83). School connectedness (Cronbach's α = .85). School facilities (Cronbach's α = .84). School safety (Cronbach's α = .87). School/class attendance (Cronbach's α N/A).	Translated to Hebrew	CPTS-RI. High reliability and validity. Cronbach's α = .93.	Original survey	12-item checklist of types of exposure to violence (Itzhaky & Dekel, 2005). No internal consistency reported.

Table 3: Key study analysis and findings

Author, Date	Outcome Measures		Exposure to ethnic-political violence measure	Analysis	Findings
	School Climate	**Psychosocial**			
Kanj & Khamis (2021)	CES subscales: Social support provided by teachers; social support received from peers and friends; use of educational resources and activities; and satisfaction with the classroom's physical environment.	SDQ	No ethnic-political violence measure	Spearman Rho's correlation	Classroom environment and psychosocial adjustment: Negative correlation between CES and SDQ ($r = -.43$, $p < .001$). Therefore higher levels of positive classroom environment were related to lower levels of negative psychosocial adjustment.
				Linear regression	Higher CES scores (B: -0.42, 95 % CI: -0.515, -0.334) were associated with a lower SDQ score, therefore participants who had higher levels of positive classroom environment tended to have higher levels of psychosocial adjustment.

Author, Date	Outcome Measures School Climate	Psychosocial	Exposure to ethnic-political violence measure	Analysis	Findings
Kia-Keating & Ellis (2007)	PSSMS: sense of school belonging.	PTSD-I adolescent version.	WTSS	Correlations	Posttraumatic stress and depressive symptoms were significantly positively correlated (r = .64, n = 76, p < .001) and both variables were significantly positively related to exposure to adversities (PTSD r = .54, n = 76, p < .01), (depressive symptoms r = .37, n = 76, p < .01). Higher levels of sense of school belonging, were significantly associated with lower levels of symptoms of PTSD (r = -.26, n = 76, p < .05) and depression (r = -.49, n = 76, p < .001).
		DSRS		Hierarchical regression	Exposure to adversities significantly predicted 29% of the variance in PTSD symptoms (F (1, 74) = 30.44, p< .001). Sense of school belonging did not have a significant interaction effect, and therefore, did not impact the relationship between exposure to adversities and PTSD symptoms. Exposure to adversities had a significant direct effect on symptoms of depression (F (1, 74) = 11.98, p= .001). Exposure to adversities significantly predicted 14% of the variance in depression severity. Sense of school belonging demonstrated a significant effect in predicting depression severity. Sense of school belonging predicted 19% of the variance in symptoms of depression. Its interaction effect (exposure to adversities x sense of school belonging) was not significant.
Khamis (2019)	SES	PTSD assessed by structured clinical interview	TES	Multivariate binary logistic regression	The prevalence of PTSD was higher in young people who reported more exposure to war atrocities (*B* = 0.22; p <0.0001). School environment was not a significant predictor of PTSD.
		DERS-SF		Hierarchical multiple regression	School environment predicted 3.1% of the variance of emotion regulation (*B* = -.25, p < .0001). Research subjects who perceived their school environment positively tended to report lower levels of emotion dysregulation.

Author, Date	Outcome Measures: School Climate	Psychosocial	Exposure to ethnic-political violence measure	Analysis	Findings
Yablon (2015)	School Climate measure created by Israeli National Authority for Measurement and Evaluation in Education	CPTS-RI	12-item checklist of types of exposure to violence	Pearson correlation	PTSD significantly correlated with three of the six school climate factors, including school policy (r = -.14; p< .01), school facilities (r =-.09; p< .05), and school safety (r= -.47; p< .01). The lower the evaluation of the safety, policy and facilities, the higher the PTSD. The more the young person missed school classes (r = .13; p <.01), and school days (r = .22; p< .01), the higher the PTSD. Exposure to violence was positively correlated with PTSD (r= .11; p< .05).
				Hierarchical regression	The various factors of school climate together contributed 36% to explaining the variance in PTSD. The measures of school safety (*B* = - .40; p< .001) and level of school facilities (*B* = - .32; p< .001) were the only two factors that predicted PTSD, suggesting that the higher the level of safety and the level of school facilities the lower the risk for PTSD.
Yablon (2019)	School safety subscale of the School Climate measure created by Israeli National Authority for Measurement and Evaluation in Education	CPTS-RI	12-item checklist of types of exposure to violence	Structural equation model with latent variables	Negative correlations were found between PTSD symptoms and sense of safety, r = -.57, p < .001. School connectedness was found to be positively correlated with PTSD symptoms, r = .28, p < .001. Higher exposure to terror was associated with stronger school connectedness only for males (*B* = .42, p < .01). Exposure to terror was found to be positively associated with PTSD symptoms among both males and females males: *B* = .33, p < .01; females: *B* = .39, p < .05). Connectedness was found to be positively associated with PTSD symptoms among males (*B* = .11, p < .05), but not females. A negative association was found between a sense of safety and PTSD symptoms among both genders: males: *B* = -.21, p < .001; females: *B* = -.26, p < .001).
	Four items of the SCS				

Author, Date	Outcome Measures			Analysis	Findings
	School Climate	Psychosocial	Exposure to ethnic-political violence measure		
Yablon & Itzhaky (2021	School Climate measure created by Israeli National Authority for Measurement and Evaluation in Education	CPTS-RI	12-item checklist of types of exposure to violence	Pearson correlation	Post-Traumatic-Stress symptoms (PTS) was significantly and negatively correlated with school facilities (r=−.19; p<.05) and school safety (r=−.29; p<.01), and positively correlated with the measure of exposure to terror (r=.21; p<.05). The less safe young people felt in school, the fewer the school facilities and the more terror attacks they faced, the more PTS they presented.
				Linear regression	The combined variables explain 26% of the variance in PTS F (7, 103) = 2.64; p<.01. Gender (*B* =.30; p<.001), school safety (*B* =−.22; p<.01), school facilities (*B* =−.17; p<.01) and exposure to terror (*B* =.21; p<.01) were found to be significantly associated with PTS. Being female, feeling less safe in school, having fewer school facilities and more exposure to terror were correlated with higher levels of PTS.

*CES=Classroom Environment Scale; CPTS-RI=Child Posttraumatic Stress Reaction Index; DSRS=Depression Self-rating Scale; DERS-SF=Difficulties in Emotion Regulation Scale Short Form; PSSMS=Psychological sense of school membership scale; PTSD-I adolescent version=UCLA PTSD Index for DSM-IV adolescent version; SDQ=Strengths and Difficulties Questionnaire; SCS=School Connectedness Scale; SES=School Environment Scale; TES=Trauma Exposure Scale; WTSS=War Trauma Screening Scale

Critical appraisal and risk of bias assessment

The CCAT critical appraisal tool was used to evaluate the quality of the included studies, the ratings of which are included in Table 4. Overall, the papers had a good level of quality, represented by a high percentage score and similar individual item scoring with 94% of individual items scoring 3 and above and 71% scoring either a 4 or a 5. The paper which was co-rated, reached the pre-determined agreement level.

In terms of risk of bias, there were two issues with the choice of measures: translation and adjustment. Firstly, one translated measure was used in three of the key studies. Translation was pertinent for this research due to some of the research being carried out in non-English speaking countries. The measure which was translated was the Child Posttraumatic Stress Reaction Index (CPTS-RI) (Yablon, 2015, 2019; Yablon & Itzhaky, 2021). However this translated version has demonstrated high reliability and validity (Laufer & Solomon, 2006).

Secondly, the use of measures which have been adjusted and not validated brings into question what constructs these tools are measuring and therefore increases risk of bias. Four measures were adjusted and five studies used at least one adjusted measure. Kia-Keating and Ellis (2007) used an adjusted version of the War Trauma Screening Scale (WTSS), where 26 out of 72 items were chosen due to cultural considerations. Khamis (2019) used an adjusted version of the Trauma Exposure Scale, where two items were changed to reflect the refugees' experiences. Yablon (2019) used an adjusted version of the School Connectedness Scale (SCS), where items regarding school safety were excluded to avoid multicollinearity with the school safety measure and also adapted from the National Longitudinal Study of Adolescent Health. Finally all of the studies with the author Yablon (2015, 2019, Yablon & IItzhaky, 2021) used a School Climate Measure which was created by Israeli National Authority for Measurement and Evaluation in Education (based on the California School Climate and Safety Survey (CSCSS)), where no previous validity or reliability was reported. Despite the bias for translated and adjusted measures, all of the studies reported internal consistency for all of their measures

for school climate and psychosocial outcomes which reduced their risk of bias (apart from the Depression Self-Rating Scale (DSRS) (Kia-Keating and Ellis, 2007)).

Another risk of bias to be considered for these studies were sample size and sampling. None of the included studies reported a sample size calculation. However, in regards to sampling several of the studies reported how they randomly sampled the population (Kanj & Khamis, 2021, Khamis, 2019, Yablon, 2015, 2019). Two studies which did not use random samples (therefore potentially increasing their bias) were Kia-Keating & Ellis (2007) who detailed their thorough approach to recruitment from a hard-to-reach population and Yablon and Itzhaky (2021) who used school counsellors to recruit.

The final major consideration for risk of bias were ethical issues. Regarding equity, this includes cultural respect, debriefing and consideration for vulnerable individuals. Only one of the studies stated that they provided information on where to go for support for psychosocial difficulties (Yablon and Itzhaky, 2021). It is surprising that none of the other studies have taken this into consideration, considering the vulnerabilities of the population. Kia-Keating and Ellis (2007) were extremely thorough in minimising cultural impact. However, they did not state whether they had ethical approval or whether they had asked for informed consent from the participants (only parents' indicated consent), which is concerning.

Table 4: Risk of Bias Appraisal using CCAT

Article	Total (%)	Preliminaries	Introduction	Design	Sampling	Data collection	Ethical matters	Results	Discussion
Kanj & Khamis (2021)	31 (78%)	5	5	4	1	4	3	4	5
Kia-Keating & Ellis[a] (2007)	34 (85%)	4	5	5	5	4	2	4	5
Khamis (2019)	35 (88%)	4	5	4	4	5	4	4	5
Yablon (2015)	30 (75%)	4	5	3	3	3	3	4	5
Yablon (2019)	31 (78%)	5	5	3	3	3	3	4	5
Yablon & Itzhaky (2021)	29 (73%)	4	5	3	2	3	4	4	4

*The total score (out of 40) or total % score is a useful summary, and the higher the scores the higher the quality of the papers. However the scores obtained for each category (rated 0-5) must be examined to prevent poor quality or bias being masked by a high total score

[a]Study which was co-rated

Results based on research questions

What is the evidence that school climate is associated with psychosocial outcomes for young people who have been exposed to political violence/armed conflict?

All six key studies reported interactions between school climate and psychosocial outcomes. Participants who had higher levels of 'positive classroom environment' were associated with higher levels of psychosocial adjustment (Kanj and Khamis, 2021). Increased levels of 'sense of school belonging' were found to decrease levels of depression (Kia-Keating and Ellis, 2007). 'Sense of school belonging' was found to uniquely explain 19% of the variance in symptoms of depression however its interaction effect (exposure to adversities X 'sense of school belonging') was not significant (Kia-Keating and Ellis, 2007).

Higher levels of 'sense of school belonging' (Kia-Keating and Ellis, 2007); higher evaluation of 'school safety' (Yablon, 2015, 2019, Yablon & Itzhaky, 2021); 'school policy' (Yablon, 2015); and 'school facilities' (Yablon, 2015, 2019, Yablon & Itzhaky, 2021); were significantly associated with reduced levels of symptoms of PTSD. It was also found that the more the young person missed school classes and school days, the

higher the PTSD symptoms (Yablon, 2015). In Yablon's 2015 study, regression analysis determined that 'school safety' and level of 'school facilities' were the only two factors that predicted PTSD, suggesting that the higher the level of safety and the level of school facilities the lower the risk for PTSD (Yablon, 2015).

However, Khamis's study (2019) did not find 'school environment' a significant predictor of PTSD. However they did find participants who perceived their 'school environment' positively tended to report lower levels of emotion dysregulation (Khamis, 2019). Interestingly, Yablon (2019) found that higher 'school connectedness' was associated with higher PTSD symptoms. A higher exposure to violence was associated with stronger 'school connectedness' for males (Yablon, 2019).

How is school climate operationalised and measured across studies in different cultural and linguistic contexts?

School climate was operationalised and measured using five different measures across the six key studies. Some measures had sub-components and some used the total score (see Table 2 for detail). Kanj & Khamis (2021) used the Classroom Environment Scale (CES) with the following subscales: 'social support provided by teachers'; 'social support received from peers and friends'; 'use of educational resources and activities' and 'satisfaction with the classroom's physical environment'. However, their findings focused on overall 'classroom environment'. Kia-Keating and Ellis (2007) used the Psychological Sense of School Membership Scale (PSSMS) and their findings focused on 'school belonging'. Khamis (2019) used the School Environment Scale (SES) and their findings focused on 'school environment'. Yablon (2015, 2019) and Yablon and Itzhaky (2021) used a constructed school climate measure based on California School Climate and Safety Survey (CSCSS) which used six school climate factors: 'teacher support', 'student's participation', 'school policy', 'school connectedness', 'school facilities', 'school safety', 'school/class attendance'. Yablon (2019) used the 'school safety' subscale of the constructed school climate measure as well as four items of School Connectedness Scale (SCS) which they referred to as 'school connectedness'. Not all of these measurements of school climate were found to be related to negative symptoms of

psychosocial functioning (see Table 5 for a summary of those which were). Caution in drawing conclusions about strength of relationships is advised as different statistical analyses were used (see Table 3 for further detail).

Table 5: Components measuring School Climate relating to negative psychosocial outcomes

Components measuring School Climate	**Measure**	**Studies**
Classroom environment	CES	Kanj & Khamis, 2021
Sense of school belonging	PSSMS	Kia-Keating and Ellis, 2007
School environment	SES	Khamis, 2019
School connectedness	SCS	Yablon, 2019
School safety	Constructed school climate measure	Yablon, 2015, 2019, Yablon & Itzhaky, 2021
School policy	Constructed school climate measure	Yablon, 2015
School facilities	Constructed school climate measure	Yablon, 2015; Yablon & Itzhaky, 2021
School/class attendance	Constructed school climate measure	Yablon, 2015

*CES=Classroom Environment Scale; PSSMS=Psychological sense of school membership scale; SES=School Environment Scale; SCS=School Connectedness Scale

How are psychosocial outcomes measured?

As stated previously this review focused on negative symptoms of psychosocial functioning (e.g. trauma symptoms, depressive symptoms difficulties with emotional regulation and behavioural regulation) and therefore measures which focused on positive psychosocial functioning (e.g. posttraumatic growth, self-efficacy) have not been included in this review. The following five measures were used to assess negative symptoms of psychosocial functioning: 'Child Posttraumatic Stress Reaction Index' (CPTS-RI) (Yablon, 2015, 2019, Yablon & Itzhaky, 2021), 'Depression Self-rating Scale' (DSRS) (Kia-Keating & Ellis, 2007), 'Difficulties in Emotion Regulation Scale Short Form' (DERS-SF) (Khamis, 2019), 'PTSD-I adolescent version' (Kia-Keating & Ellis, 2007) and 'Strengths and Difficulties Questionnaire' (SDQ) (Kanj & Khamis, 2021). Khamis (2019) used a structured interview to assess PTSD.

Additional outcomes specifically regarding ethnic-political violence

Three measures were used to assess exposure to ethnic-political violence: War Trauma Screening Scale (Kia-Keating & Ellis, 2007), Trauma Exposure Scale (Khamis, 2019) and a 12-item checklist of types of exposure to violence (Yablon, 2015, 2019, Yablon & Itzhaky, 2021). Kanj & Khamis (2021) based exposure being present on the population (Syrian refugees).

The five studies who measured ethnic-political violence found a relationship between higher exposure to ethnic-political violence and increased negative psychosocial symptoms, measured as PTSD or Post-Traumatic Stress Symptoms (PTS) (Kia-Keating & Ellis, 2007, Khamis, 2019, Yablon, 2015, 2019, Yablon & Itzhaky, 2021) and depressive symptoms (Kia-Keating & Ellis, 2007). In terms of school climate mediating the relationship between exposure to ethnic-political violence and negative psychosocial symptoms, a 'sense of school belonging' did not impact the relationship between exposure to adversities and PTSD symptoms, however it did buffer the relationship between exposure to adversity and depressive symptoms (Kia-Keating & Ellis, 2007).

Discussion

This review firstly aimed to address a gap in the literature by systematically assessing research into the effect of school climate on negative symptoms of psychosocial functioning, for young people exposed to ethnic-political violence. Secondly, it aimed to examine how school climate is operationalised and measured. Thirdly, it aimed to explore how psychosocial outcomes are measured. By identifying these sub-components and examining the extent and quality of the associated research, this review provides detailed information about the current state of the research base and identifies particular areas that have been relatively under-researched.

What is the evidence that school climate is associated with psychosocial outcomes for young people who have been exposed to political violence/armed conflict?

This review demonstrates evidence that the concept of school climate is associated with psychosocial outcomes, specifically PTSD symptoms, depressive symptoms and emotional dysregulation. However, this review highlights the limited research in this area, and the difficulties in finding appropriate studies to draw upon especially due to the differences in measuring the different concepts.

How is school climate operationalised and measured (including subcomponents) across studies in different cultural and linguistic contexts?

An important contribution of this review relates to the examination of how school climate was operationalised and measured and whether there were any specific components of school climate which affect negative symptoms of psychosocial functioning. This review found that authors used different measures for the concept of school climate as well as adjusting existing measures, some without detailing their reliability and validity (Yablon, 2015, 2019; Yablon & Itzhaky, 2021). Therefore, this questions whether the same construct is being measured across studies which would negatively impact on the quality and usefulness of findings.

From the findings of this review, the sub-components of school climate which demonstrated an interaction with negative symptoms of psychosocial functioning have been grouped into four areas: 'school environment' (including school facilities); 'sense of school belonging/connectedness'; 'school safety'; and 'school policy'. Aldridge and McChesney (2018) conducted a systematic review of 48 studies who measured school climate and identified four sub-constructs of school climate: 'social connectedness/relationships; 'school safety'; 'school connectedness'; and the 'academic environment'. Aldridge and McChesney (2018) found a difference between 'social connectedness/relationships' and 'school connectedness' through inductive analysis of the constructs involved in their reviewed studies, whereas previous reviews have grouped these constructs together as a way of organising their reviews before starting analysis (Cohen et al., 2009; Thapa et al., 2013; Wang and Degol, 2016). Interestingly, the key

studies in this review did not identify any sub-components relating to social connectedness/relationships as having a significant effect on negative psychosocial outcomes. Rather it may be that they relate to positive psychosocial outcomes, which is not in the scope of this review. It is noteworthy, that some studies were excluded from this review, due to insufficient conceptualisation of school climate. For example, Diab and colleagues (2018) measured peer relations, teacher's supportive practices and teacher's encouragement, but did not relate this to the concept of school climate impacting psychosocial outcomes and therefore it was excluded. This highlights difficulties conceptualising the concept of school climate.

Additionally, there is a potential bias within this research due to the conceptualisation of school climate in Western high-income countries, compared to non-Western low-income countries. However, Larson and colleagues (2020) found a similar operationalisation of school climate in LMICS as in high-income countries (although majority of their studies took place in middle-income countries). They also queried whether this was due to the use of adapted USA based measures. They found that studies in LMICS focused on school resources and the physical environment, which differed from research on school climate in high-income countries (Astor & Benbenishty, 2018). This review includes studies from a combination of high-income countries (e.g. Israel), low-middle income countries (e.g. Lebanon) and refugees who reside in middle to high income countries (e.g. USA and Jordan) but who come from low income countries (e.g. Syria, Somalia). It is important to note that additional components to school resources and physical environment have been identified as having an impact on psychosocial outcomes. It is also important to note that Larson and colleagues' review (2020) was not specifically focusing on mental health outcomes so therefore this may account for some of these differences.

How are psychosocial outcomes measured?

Regarding the aim to explore how psychosocial outcomes are measured, the key papers in this review focused on PTSD symptoms, depressive symptoms and emotional dysregulation. However, how negative symptoms of psychosocial functioning are

construed in different ethnic populations has not been considered in these studies. It could be argued that a diagnosis of PTSD has been constructed through a westernised viewpoint (e.g. ICD-11: International Classification of Diseases, eleventh revision, World Health Organisation, 2018; DSM-5: Diagnostic and Statistical Manual of Mental Disorders Version 5, American Psychiatric Association, 2000) and although some of the measures have been translated and reliability and validity has been determined (e.g., CPTS-RI), more research needs to be conducted to explore what this means for these non-Western populations. Furthermore, it would be beneficial to explore the beliefs about the experiences these young people have experienced rather than just relying on self-report checklists of exposure to ethnic-violence or indeed inferring psychological distress or psychopathology through screening tools. Due to the nature of the conflict, the meaning behind these events may vary due to differing values. Additionally, the construct of what terror is, may be different between the populations in this review, and to a wider population, therefore these findings may not be generalizable.

Another consideration regarding the link between school climate and negative symptoms of psychosocial functioning are unexpected results found in two of the key studies. Kia-Keating and Ellis (2007) found the level of 'school belonging' did not moderate the effect of exposure to adversities on PTSD and Yablon (2019) found that 'school connectedness' was related to higher levels of PTSD. A study on Cambodian adolescents (Sack, Clarke, and Seeley, 1996) found that while depression was highly related to daily stressors, PTSD was more strongly associated with past trauma history. Other researchers have obtained similar findings suggesting that the course of PTSD may be significantly different from depression and other adjustment problems among refugee young people (Goenjian et al., 2000; Kinzie, Boehnlein, & Sack, 1998; Stein et al., 1999), and it continues to be an important area for future study.

Limitations

It is important to note some limitations of this study. The uncertainty about the cross-cultural meaning of concepts such as school climate, trauma and terror within non-western populations has already been highlighted. Because this review did not include

qualitative research, this question remains unanswered. Future reviews could examine the outcomes of existing qualitative research or if this aspect of the literature is under-developed there may be recommendations that could be made about the need for additional qualitative research to understand the meaning of these concepts.

The database search was limited to peer reviewed articles and did not include grey literature, conference proceedings, and white papers to gain a more representative sample of literature on the topic. In limiting the search to peer reviewed articles, we sought to strike a balance between comprehensiveness and relevance (Kugley et al., 2016). Future studies may want to further expand their search to include these other relevant literature sources, especially governmental organisations like the World Health Organisation and Non-Governmental Organisations who collect data in a lot of non-Western countries. Also, future reviews could also attempt to capture data from non-English language sources. Another limitation is the potential for publication bias. Specifically, the lead author did not speak the languages that were associated with many relevant countries experiencing ethnic-political violence, thereby potentially biasing the results because studies in languages other than English were excluded.

A further limitation was the scope of the systematic review due to time and space constraints. Therefore, the database search was limited to the three databases which were the most relevant to this area following discussion with a librarian. Due to these constraints, positive psychosocial outcomes including PTG and self-efficacy were not included in the scope of this review.

An additional bias could be the differences in population samples. Yablon and Itzhaky (2021) recruited participants through school counsellors and therefore their population is likely to have more psychosocial difficulties than a random sample of young people and limits generalisability. Another difference in population sample were refugees living in another country (Kanj & Khamis, 2021; Kia-Keating & Ellis, 2007; Khamis, 2019) which may have impacted their sense of belonging within a school climate construct. There may be differences in their negative psychosocial outcomes due to some being removed from

the ethnic-political violence and conversely being in a different country and culture, sometimes with potentially limited support networks. Furthermore, half of our studies (three) were by the same author (Yablon, 2015, 2019; Yablon & Itzhaky, 2021) and although different samples, they were all based in Israel which could have biased the overall findings.

A final important limitation is that this review focused on one variable (school climate) impacting negative symptoms of psychosocial functioning. There are many variables which were not considered, for example home environment, relationships, gender and age. This is a complex and varied area and therefore further reviews would support understanding the wider concept.

Future research

This review highlights a number of important directions for future research. There needs to be further exploration of the latent construct of school climate in these diverse populations and development of appropriate measures which have been rigorously tested to explore the relevant constructs of school climate. Qualitative research may be helpful to gain a more in-depth understanding. Additionally understanding the development of PTSD symptoms within populations exposed to ethnic-political violence and more understanding of the meaning of trauma and exposure would be beneficial.

Research has revealed resilience, resources, and strengths among war-affected young people, indicated by low levels of mental health problems despite severe war trauma (Masten & Narayan, 2012; Werner, 2012; Barber, 2013). This would be worth further investigating along with investigating the impact of school climate on positive symptoms of psychosocial functioning outcomes.

Conclusion

Taken together, the findings of this study suggest that school climate is associated with negative symptoms of psychosocial functioning amidst exposure to ethnic-political violence, although causality is unclear. Due to the differences in measures and use of translated and adjusted measures to explore these concepts, additional rigorous research is needed to better understand how school climate and negative symptoms of psychosocial functioning are conceptualised across diverse populations and environments. In addition to further consideration of issues related to measurement of school climate and psychosocial functioning, more longitudinal studies are needed, along with a focus on intervention research to determine causal associations. Although this review was specifically focused on young people exposed to ethnic-political violence, the results of this review can be generalised to demonstrate the importance of school climate on mitigating the impact of negative psychosocial outcomes for young people in a variety of environments, particularly those who are exposed to adversity.

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Chapter 2: Major Research Project

The role of school climate on trauma responses in young people exposed to ethnic-political violence in Palestine

Prepared in accordance with the author requirements for Frontiers: Psychology for Clinical Settings Frontiers | Author guidelines (frontiersin.org)]

Plain language summary

The role of school climate on trauma responses in young people exposed to ethnic-political violence in Palestine

Background

War and violence about ethnicity and politics are ongoing in many countries around the world, particularly in the Middle East with the Israel-Palestine conflict. Palestinian young people are at high risk of exposure to traumatic events which could result in traumatic stress reactions. This can lead to a potential diagnosis of post-traumatic stress disorder (PTSD). Recently, there has been awareness that people who are exposed to prolonged or repeated trauma could suffer from a more complex reaction which has been named complex PTSD (CPTSD). However, research is mostly completed in Western countries and there is little research completed on whether separate PTSD and CPTSD symptoms are present in Palestine.

Researchers are also interested in factors which help reduce trauma symptoms. A positive school climate where young people find their school a safe, supportive, good environment, has been shown to improve young people's wellbeing (Yablon, 2015). However, there is limited research into the role of school climate for young people exposed to ethnic-political violence.

Aims and Questions

This study aims to explore two questionnaires, one which measures trauma and one which measures school climate to see if they are relevant in a Palestinian population. This study will find out if Palestinian young people are meeting the criteria for PTSD and CPTSD. It will also explore whether school climate in Palestine is a protective factor, associated with lower trauma symptoms.

Methods

Data has been taken from a previous school Mental Health Survey conducted in 2021 with responses from 818 young people living in Palestine, aged 11-18. Statistical analysis has been used to explore the International Trauma Questionnaire (ITQ) and the School

Climate Scale (SCS) to see if these questionnaires are relevant to Palestinian young people. Rates of diagnosis will be analysed. Statistical analyses will be completed to find out whether school climate (measured by the SCS) impacts trauma responses (measured by the ITQ), and whether trauma responses are impacted by other variables, including age, gender, where the participant lives and levels of military exposure.

Main Findings and Conclusions

Analysis found that the ITQ and SCS performed differently within this sample of Palestinian young people compared to previous studies using different populations. Rates of PTSD were 17.7% and of CPTSD were 18.8%. Females had higher rates than males for PTSD and for CPTSD. School climate was found to be associated with lower trauma levels. However this is the first stage of researching school climate and trauma in Palestine. Further research is needed to develop our understanding of cultural views on trauma as well as school climate.

References

Yablon, Y.B., 2015. Positive school climate as a resilience factor in armed conflict zones. *Psychology of Violence*, *5*(4), p.393.

Abstract

Background: Inter-ethnic political conflicts are ongoing in many regions around the world, particularly with the Israel-Palestine conflict. Palestinian young people are at high risk of exposure to traumatic events. In other population samples, school climate has had a positive impact on young people's wellbeing.

Aims: Examining trauma responses in young people exposed to ethnic-political violence in Palestine including potential stressors (e.g. military exposure) and protective factors (e.g. positive school climate). Validity of translated measures will be examined, and the ITQ will be used to explore PTSD and CPTSD rates.

Methods: Secondary analysis of a cross-sectional dataset of 818 young people, living in the West Bank in Palestine. Phase one of analysis: principal components analysis of the 18-item Arabic ITQ and newly developed School Climate Scale (SCS). Phase two of analysis: estimating prevalence of PTSD and CPTSD and examining associations.

Results: Different factor structures of the ITQ and SCS emerged in this population sample. Rates of PTSD were 17.7% and of CPTSD were 18.8%. Statistically significant gender differences for PTSD and for CPTSD were found, with higher rates for females. Age and trauma were not significantly associated. There is preliminary evidence regarding positive school climate decreasing trauma levels.

Conclusion: This is the first stage of researching predominantly Western constructs of school climate and trauma in Palestine. Further research is needed, including confirmatory analysis of the SCS and exploration of cultural views on trauma, to develop our understanding of population differences.

Introduction

Trauma responses when exposed to ethnic-political violence

Inter-ethnic and political conflicts are ongoing in many regions around the world, particularly in the Middle East with the Israel-Palestine conflict. Palestinian young people are at high risk of exposure to traumatic events which could result in traumatic stress reactions. Exposure to extreme ethnic-political violence can impact children's cognitive and emotional processing of those experiences. According to Dubow and colleagues (2012) this can result in them displaying the following criteria for post-traumatic stress disorder (PTSD): re-experiencing the event (e.g., intrusive memories, dreams), avoidance of traumatic reminders and symptoms of increased arousal (e.g., hypervigilance, irritability, sleep problems) (International Classification of Diseases, eleventh revision (ICD-11), World Health Organisation, 2018; Diagnostic and Statistical Manual of Mental Disorders Version 5 (DSM-5), American Psychiatric Association, 2000). Additionally, it is important to consider whether young people who are exposed to extreme ethnic-political violence would experience more complex reactions extending beyond those typically observed in PTSD, including difficulties with emotion regulation, self-identity and relational capacities.

ICD-11 has included complex-PTSD (CPTSD) as a new disorder (Maercker et al., 2013), which describes the more complex reactions that are typical of individuals exposed to chronic trauma. CPSTD is considered to differ from PTSD, which is traditionally linked to a response to a single or episodic event. The conceptual origins of CPTSD are linked to prolonged or repeated trauma, for example, associated with adverse childhood experiences such as prolonged sexual or physical abuse and neglect (Herman, 1992). CPTSD includes the three core elements of PTSD, as well as three additional elements called 'disturbances in self-organisation' ("DSO symptoms") that are pervasive and occur across various contexts. These are: emotion regulation difficulties (for example, problems calming down); negative self-concept (for example, beliefs about self as worthless or a failure); and relationship difficulties (for example, avoidance of relationships) (Cloitre, 2020).

However, research in PTSD and CPTSD is predominately found in Western samples and can be very specific, non-generalisable and relied on too heavily. Non-Western populations may experience different types of trauma and respond to traumatic or stressful events differently, therefore, caution in generalising patterns across cultural and linguistic contexts is needed.

Researchers and mental health professionals have become increasingly interested in PTSD among Palestinian young people (Thabet et al., 2004; Khamis, 2005). Research has shown that most youth exposed to extreme political violence in Gaza exhibit PTSD (Qouta, Punamäki, & El Sarraj, 2003; Thabet et al., 2008). 56.8% adolescents in Gaza scored within the clinical range of PTSD, compared to 6.3% in peacetime populations (Kolltveit et al., 2012). This was found to be similar to research in other populations of young people who have been exposed to war, including Lebanese (20% prevalence) (Saigh, 1991), Rwandan (44% prevalence) (Schaal & Elbert, 2006) and Sri Lankan (19-25% prevalence) (Elbert et al., 2009). A longitudinal study in the Middle East found that exposure to political violence was significantly related to subsequent Post-Traumatic-Stress symptoms (PTS) (Dubow et al., 2012).

As demonstrated, evidence that conflict exposure leads to elevated prevalence rates of PTSD compared to non-conflict zones has been evidenced. However there is limited research in CPTSD in this population since it was accepted to ICD-11 in 2018 (ICD-11 officially launched in 2021). Much of the CPTSD models are drawn from Western studies of people who have experienced chronic sexual or physical abuse. What is unknown is whether the chronic effects of military conflict exert the same effects, especially on DSO symptoms such as negative self-concept. It is possible that negative self-concept may not be a consequence of trauma in military conflicts if the sense of self is protected by other factors such as beliefs about the conflict and their role in it (e.g., being part of the resistance). Examination of the risk factors and protective factors which may exacerbate or mitigate the impact of exposure to ethnic-political violence and the potential outcome in relation to traditionally understood PTSD/CPTSD symptoms will now be reviewed.

Relationships between demographic variables and trauma symptoms

Researchers have investigated the relationship between experiencing PTSD and certain characteristics (e.g., gender, age, socio-cultural variables). In regards to gender differences, in several studies across a range of nations, girls reported higher levels of distress than boys (in United States of America, Giaconia et al., 1995; in Bosnia-Hercegovina, Smith et al., 2002; in Palestine, Qouta, Punamäki, & Sarraj, 2003; in Gaza, Kolltveit et al., 2012). However other studies found no effect of gender (in Rwanda, Dyregrov et al., 2000; in Iraq, Dyregrov, Gjestad & Raundalen, 2002; in Palestine, Espié et al., 2009), and even the opposite pattern of males reporting higher distress has been reported (in Palestine, Khamis, 2005). Kolltveit and colleagues (2012) found that boys had more exposure to ethnic-political violence but reported less distress. A possible explanation for this outcome is that there may be a stronger ideological and political commitment among males as this has been shown to be a protective factor in post-trauma reactions in political conflicts (Punamäki, 1996).

In terms of differences in age, a number of studies with participants ranging in age from 7 to 17, found that older children were at higher risk of developing PTSD symptoms (in Kuwait, Nader & Pynoos, 1993; in Kuwait, Hadi & Llabre, 1998; in Palestine, Khamis, 2005). However, one study did not find this relationship to be statistically significant (in Gaza, Kolltveit et al., 2012). PTSD symptoms have not been systematically related to age in school-age children (Green et al., 1991). Therefore, understanding the role of age in PTSD symptoms requires awareness of the developmental stage of the child which could affect their interpretations of the meaning of traumas, their associated symptoms as well as their coping resources (Khamis, 2005).

Socio-cultural variables relating to PTSD however, have been found. Children from refugee camps reported experiencing more PTSD symptomatology than children living in rural and urban areas (Cambodian refugee children, Carlson & Rosser-Hogan, 1991 (cited in Khamis, 2005); Palestinian refugee children, Khamis, 2005). In Palestinian refugee camps this may be due to the increased exposure to conflict (Khamis, 2000) and

poor living conditions (Takkenberg, 1991), where injuries and illnesses (Heiberg et al., 1992), poverty and unemployment are more widespread (Hazboun, 1992).

This research demonstrates the different factors which can impact negatively on young people's trauma responses. It is therefore important to investigate the environmental factors and the meaning placed on the trauma, to fully examine trauma responses in a population exposed to ethnic-political violence.

Factors protecting against negative impacts of exposure to ethnic-political violence

Research has also shown the resilience of children exposed to ethnic-political violence (e.g., Garbarino & Kostelny, 1996; Punamäki, Qouta, & El Sarraj, 1997), highlighting the importance of identifying protective factors which might moderate the negative impact of this exposure (Dubow et al., 2012). Resilience is a dynamic process which relates to effective coping and adaptation when faced with significant threat or adversity (Luthar, Cicchetti, & Becker, 2000). There has been increased research on the mediators and moderators which predict resilience in trauma, including ethnic-political violence (Masten & Narayan, 2012). Dubow and colleagues (2012) examined the role of family and individual level protective factors in relation to exposure to ethnic-political conflict and violence and PTS among Israeli and Palestinian youth in a longitudinal study. At the family level, positive parenting was a protective factor for children exposed to political violence (Dubow et al, 2012). This finding was consistent with cross-sectional studies (Garbarino & Kostelny, 1996). Therefore, there are signs that wider environmental and psychosocial factors buffer the trauma to PTSD/CPTSD pathway.

At the individual level, young people with higher levels of self-esteem were less likely to experience PTS when exposed to higher levels of ethnic-political conflict/violence (Dubow et al., 2012). Following the "Responses to Stress Model" of coping (Connor-Smith et al., 2000), it could be argued that young people with higher levels of self-esteem may be more able to match their coping strategies to the demands of persistent and

uncontrollable stressors and use coping strategies such as disengagement and secondary control coping strategies (Dubow et al., 2012).

However, there is mixed evidence for coping as a stress-buffering resource (see Grant et al., 2006). It was also queried whether the protective factor was lack of depression rather than high self-esteem due to the moderate overlap between self-esteem and depression (e.g., Overholser et al., 1995; Dubow et al., 2012). CPTSD includes the criteria for DSO, including negative self-concept. Positive self-concept could be a resilience or protective factor protecting against experiencing CPTSD symptoms, although this has not been explored in research.

School Climate protecting against the impact of exposure to ethnic-political violence

The role of school and students' experiences in school has been widely researched, including the effect of school climate as a resilience factor for young people's psychosocial wellbeing (Yablon, 2015). A broad consensus of the definition of school climate remains challenging (Wang & Degol, 2016; Astor and Benbenisthty, 2018; Zullig, Matthews-Ewald & Huebner, 2021). Following an extensive review of the climate literature and definitions, the National School Climate Council (NSCC) proposed a definition that has been cited extensively (Astor and Benbenisthty, 2018). According to this definition, school climate consists of (a) safety; (b) teaching and learning; (c) relationships; and (d) the institutional environment and staff environment. The advantage of the NSCC definition is that it is very inclusive and comprehensive. However, this is also its disadvantage, for research or intervention planning (Astor and Benbenisthty, 2018).

In terms of a school climate measure, Zullig and colleagues have created a 42-item School Climate Measure encompassing the following 10 domains: Positive Student-Teacher Relationships; School Connectedness; Academic Support; Order and Discipline; School Physical Environment; School Social Environment; Perceived Exclusion/Privilege; Academic Satisfaction; Opportunities for Student Engagement

domain; and Parental Involvement domain. This measure has demonstrated convergent and discriminant validity and has correlated significantly with measures of adolescents' school satisfaction, global life satisfaction, and health-related quality of life (Zullig et al., 2018; Zullig, Matthews-Ewald & Huebner, 2021). This measure appears to encompass the inclusiveness of the NSCC definition. Interestingly the domains do not rely on one another for school climate assessment. However, it is still to be determined as to whether the construct of school climate can be applied across cultural and linguistic contexts, as it cannot be assumed that this construct operates in the same way as more universal educational concepts (e.g. numeracy and literacy). Therefore determining an appropriate measure of school climate in specific contexts is needed.

Schools have a meaningful impact on young people's lives but there is limited research on their role as a resilience factor when experiencing ethnic-political violence (Yablon, 2015). Young people's experiences in school shape many aspects of their life and their development (OECD, 2013 cited by Yablon, 2015). For refugee children, schools can support re-establishment of routines and opportunities for supportive relationships (Narayan, 2012).

Studies focusing on the relationship between exposure to violence and school climate have shown a meaningful effect of various aspects of the school climate (e.g., teacher support, school connectedness and school safety) on young people's resilience. These studies focused mainly on violence within schools and between school-age children (Kasen et al., 2004). Studies of other forms of violence against children (e.g. abuse, neglect, crime in the neighbourhood), also showed that a positive school climate plays an important role in children's wellbeing, and resilience (Bender, 2012; Thapa et al., 2013).

Yablon (2015) examined the contribution of school climate to trauma responses relating to ethnic-political violence in Israel. A school climate measure was created by the Israeli National Authority for Measurement and Evaluation in Education with the following domains: 'teacher support'; 'students participation'; 'school policy'; 'school

connectedness'; 'school facilities'; 'school safety'; 'school class attendance'. Yablon (2015) found that a positive school climate was an important resilience factor for young people living with ethnic-political violence in Israel. The subscales of 'school connectedness' and 'teachers' support' were shown to be an important contributor to young people's resilience in general, and to dealing with violence in particular (Yablon, 2010).

Although these findings add to the research on the role of school climate on trauma responses after exposure to ethnic-political violence, there is a still a dearth in the research. As argued, these concepts of trauma, PTSD/CPTSD and school climate have largely been formed in a Western context with evidence based on specific clinical samples which cannot be generalised. Therefore, incorrect conclusions may be inferred about what protects or is detrimental to young people who have been exposed to ethnic-political violence. The nature of the traumatic exposure (e.g. military context versus sexual abuse or natural disasters), the impact of single vs repeated experiences (i.e. the PTSD-CPTSD distinction), and the context (e.g. refugee camps marked by high psychosocial stressors) need to be explored. Additionally, the context of exposure to ethnic-political violence in Israel compared to the West Bank in Palestine is dramatically different and the meaning behind the violence and trauma is vast.

Therefore this study will seek to advance the existing literature by exploring the factor structure of the Arabic 18-item ITQ and the newly created School Climate Scale (SCS) within a non-Western, non-clinical population. This study will also focus on trauma responses in young people exposed to ethnic-political violence in Palestine and will be the first to report on the prevalence of ICD-11 PTSD and CPTSD within this population. It will also be the first to explore the construct of school climate in a Palestinian population and whether it impacts a trauma response.

Aims and hypotheses

Aims

- To explore the factor structure of SCS and ITQ.
- To explore the relationship between trauma symptoms, military exposure, and school climate
- To explore whether any relationship between school climate and trauma responses are affected by age, gender or the degree of conflict in the local environment.

Hypotheses

Although this is a preliminary study in the Palestinian context, some hypotheses and predictions can be stated a priori.

- We predict higher rates of PTSD and CPTSD in females.
- We predict a positive association between military exposure and trauma responses.
- We predict that a higher positive school climate will be associated with reduced trauma responses (consistent with a protective effect of school climate on trauma).
- We predict that some living contexts such as refugee camps will be associated with worse trauma response.

Method

Participants

A cross-sectional dataset with self-report measures has been taken from a school Mental Health Survey conducted in 2021 with 818 young people living in the West Bank in Palestine. Eighteen schools were surveyed with participants from Grade 5 (11-years-old) to Grade 12 (18-years-old). Eligibility to participate in the study included being between the ages of 11-18 years old, attending school in Palestine, and able to consent. Demographic information was collected through participants responding to questions on: gender, age, grade level and where they lived (including zone, governorate, living context (e.g. city, village, refugee camp)). (see Table 1). Missing data was under 4% for each category.

Table 1: Summary of demographic information (n=818)

Demographic Categories	**Frequency (Percentage)**
Gender	
Male	330 (40.3%)
Female	482 (58.9%)
Age	
11	10 (1.2%)
12	98 (12%)
13	120 (14.7%)
14	124 (15.2%)
15	189 (23.1%)
16	156 (19.1%)
17	104 (12.7%)
18	9 (1.1%)
School Grade	
Fifth	0 (0%)
Sixth	3 (0.4%)
Seventh	119 (14.5%)
Eighth	129 (15.8%)
Ninth	121 (14.8%)
Tenth	195 (23.8%)
Eleventh	130 (15.9%)
Twelfth	111 (13.6%)
Governorate	
Nablus	260 (31.8%)
Bethlehem	237 (29%)

Ramallah	143 (17.5%)
Qalqilya	100 (12.2%)
Jerusalem	78 (9.5%)
Zone of country	
North	359 (43.9%)
Centre	222 (27.1%)
South	237 (29%)
Living Situation	
Village	569 (69.6%)
City	192 (23.5%)
Refugee Camp	32 (3.9%)

Measures

International Trauma Questionnaire (ITQ) Arabic Version.

The ITQ (Cloitre, et al., 2018) is a short, simply worded measure, focusing on the core features of PTSD and CPTSD. It is freely available, employs straightforward diagnostic rules and has been translated into Arabic. The ITQ was developed to be consistent with the organizing principles of the ICD-11 (WHO, 2019), which are to maximize clinical utility and ensure international applicability through a focus on the core symptoms of a given disorder. The ITQ consists of 18 items, which are divided into PTSD items and CPTSD (DSO) items. The ITQ initially asks for respondents to identify an experience which troubles them. With this traumatic event in mind, respondents are instructed to indicate how much they have been bothered by each symptom in the past month. There is a five-point Likert scale ranging from “not at all” (0) to “extremely” (4).

PTSD symptoms are divided into three clusters: re-experiencing in the here and now (Re); avoidance (Av); sense of current threat (Th). Functional impairment associated with these symptoms is screened. DSO symptoms are divided into three clusters: affective dysregulation (AD); negative self-concept (NSC); disturbances in relationships (DR). Functional impairment associated with symptoms is screened for both PTSD and DSO.

Psychometric evaluations indicate that the PTSD and DSO items of the ITQ produce scores with satisfactory internal consistency, across a range of study samples[2]. For the Arabic ITQ version, Ben-Ezra and colleagues (2018) and Hyland and colleagues (2018) used an earlier, longer version of the ITQ, but no other studies have been identified which use the current Arabic 18-item ITQ. For this sample good internal reliability was determined for all items (Table 2). Due to some of the scales having a small number of items only the mean inter-item correlation values have been reported for the two item scales (a good mean inter-item correlation is .15 to .50) (Pallant, 2016).

Table 2: ITQ internal reliability

	Cronbach's α	Mean inter-item correlation
Total Score PTSD	.75	.33
Re		.45
Av		.35
Th		.43
Total Score DSO	.82	.42
AD		.36
NSC		.73
DR		.56
Total Score functional impairment	.9	.6

School Climate Scale (SCS)

Due to school climate being a novel latent construct to be measured with Palestinian young people, the SCS has been created by the research team at the Guidance and Training Centre. The SCS states that it is comprised of five subscales: environment, teaching and learning, safety, relationships. It is comprised of 35 items on a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree (5)". The SCS has

[2] See ITQ (traumameasuresglobal.com) for summary of research and scoring criteria

been formed from several sources: Zullig's School Climate Measure (2019), Alaska School Climate and Connectedness Survey (Spier, 2015), Elias and colleagues guidelines (1997) and two research papers (Nowas, 2002; Shanad, Taha, Al-Zahlan, 2015). For this sample, the internal reliability of the 32-item SCS (items were removed after principal components analysis) demonstrated good internal reliability (Cronbach's $\alpha = .901$).

Military Exposure Scale

The Military Exposure Scale is a checklist measure, comprised of 20 items on a five-point Likert scale ranging from "never" (1) to "once a week" (5). The Military Exposure Scale has been created from several sources including the Gaza Traumatic Event Checklist (Thabet & Vostanis, 1999). Additional items were added to cover the full range of traumatic exposure experiences likely to affect school children in Palestine. These were adapted from Arabic studies of trauma exposure in Palestine and the clinical experience of co-investigators on this study who were working in the West Bank. In our sample, the internal reliability of the Military Exposure Scale demonstrated good internal reliability (Cronbach's $\alpha = .840$)

Traumatic Events Type

Traumatic Events Type is a descriptive measure, comprised of 22 items with yes/no responses. This was used to understand the type of traumas this sample of Palestinian young people had been exposed to. See Table 3 for a summary. Each item had less than 4% missing data.

Table 3: Rank order of Traumatic Events Type (n = 818)

Traumatic Events Type Questionnaire Items	**Frequency (Percentage)**	
	Yes	No
11. Have you ever been attacked by dog or another animal?	542 (66.3%)	267 (32.6%)
19. Have you seen or heard people attacking each other for real on television or radio? Like a war or a building blowing up?	530 (64.8%)	278 (34%)
16. Have you ever seen people outside your home fighting or attacking each other?	521 (63.7%)	277 (33.9%)
4. Have you ever known someone who got really hurt or sick, or even died?	509 (62.2%)	298 (36.4%)
18. Even if they weren't physically attacking each other, have you ever heard people outside your home really yelling and screaming at each other a lot?	509 (62.2%)	301 (36.8%)
2. Have you ever seen a really bad accident that you weren't actually in?	464 (56.7%)	340 (41.6%)
21. Have there been some other times when somebody did or said something that made you feel the most sad or scared or unhappy you've ever felt, or that bothers you a lot now?	456 (55.7%)	351 (42.9%)
14. Even if they weren't physically attacking each other, have you ever heard people in your family really yelling and screaming at each other a lot?	355 (43.4%)	454 (55.5%)
15. Has someone in your family ever been put in jail or prison? Or have the police or soldiers ever come to your house and said you or your family were in big trouble?	336 (41.1%)	473 (57.8%)
12. Have you ever seen people in your family fighting or attacking each other?	322 (39.4%)	486 (59.4%)
5. Have you ever had to stay overnight at the hospital or have an operation?	309 (37.8%)	481 (58.8%)
1. Have you ever been in really bad accident, like a car accident, a fall or a fire?	289 (35.3%)	521 (63.7%)
22. Have there been some other times when you were left all alone and you were afraid you would die and no one would ever help you?	266 (32.5%)	541 (66.1%)

17. Have you ever seen people outside your home shooting with a gun? Or stabbing with a knife? Or beating each other up?	261 (31.9%)	529 (64.7%)
8. Has someone ever told you they were going to hurt you really badly, or acted like they were going to hurt you really badly?	193 (23.6%)	619 (75.7%)
3. Have you ever been in really bad storm, like a tornado, a hurricane, or a blizzard? Or in a flood or an earthquake? Or were you ever hit by lightning?	169 (20.7%)	637 (77.9%)
9. Children 12 or younger: Has someone a lot older ever tried to steal from you? Or from a family member or friend when you were right there? Teenagers: Has someone ever mugged you or held you up to try to steal from you? Or have you ever been present when a family member or close friend was mugged?	152 (18.6%)	647 (79.1%)
7. Has someone ever attacked you or tried to hurt you really badly on purpose like beating, shaking, biting, burning or choking you, or stabbing you with a knife or shooting you with a gun? Or has anyone ever punished you so hard that you were hurt really badly or had to go to the doctor or hospital, like a spanking, whipping or beating?	140 (17.1%)	673 (82.3%)
20. Has someone ever touched your body in a way you didn't want them to or in a way that made you uncomfortable?	128 (15.6%)	662 (80.9%)
6. Have you ever had to go away from your parents or family for a long time? Like going to live with another family, or a boarding school or camp, or a hospital or detention center? Or did your mother, father, or someone else who looks after you ever go away for a long time?	103 (12.6%)	707 (86.4%)
13. Have you ever seen people in your family shooting with a gun? Or stabbing with a knife? Or beating each other up?	94 (11.5%)	717 (87.9%)
10. Has someone ever kidnapped you or taken you away when they weren't supposed to? Or has someone in your family or a close friend ever been kidnapped?	88 (10.8%)	719 (87.9%)

Procedure

The original study was reviewed and approved by the Institutional Review Board of An-Najah University in Nablus, Palestine on 17/10/21 (Appendix 4, Page 107). Written consent was required from a parent or guardian (Appendix 5, Page 108), and the young person could decline participation in the survey by choosing not to complete the questionnaires.

The consent form indicated that the research project involved a collaboration between the Ministry of Education, The Guidance and Training Centre, and the University of Glasgow. The data custodian and lead researcher in Palestine is a collaborator on the current project and approved the protocol used in this study. This is secondary use of existing data and the respondents to the original survey consented to the analysis of their data in anonymised form to understand trauma reactions and distress experienced by young Palestinians. The analyses planned fall within the scope of this consent.

The Data Protection Team and Contracts team at the University of Glasgow were consulted on the transfer and planned use of this data. It was assessed as acceptable use of this data, which will not impact on the original consent of the data. This study has been approved by the University of Glasgow Medical, Veterinary and Life Sciences College Ethics Committee on 01/06/22 (Appendix 6, Page 109).

Data analysis

This study used an existing cross-sectional dataset with self-report measures for secondary analysis. The analytic plan for this study included two phases. Phase One involved principal components analysis (PCA) of the Arabic 18-item ITQ, due to the measure being used on a new population, and on the SCS, due to the measure being created using items from different measures, translated into Arabic and used with a new population (e.g. Palestinian young people).

PCA was used to explore the factor structure of these scales in this Palestinian sample. Stevens (1996, pp. 362-3) argued that it is psychometrically sound and simpler

mathematically and it avoids some of the potential problems with 'factor indeterminacy' associated with factor analysis. Additionally, Tabachnick and Fidell (2013) note that PCA provides a full empirical summary of the data set. As this study is not solely focusing on psychometric evaluation of measures, this approach to factor analysis was thought to be suitable. Given the item to subject ratio the sample size was determined to be suitable for PCA as the ITQ has 18 items, the SCS has 35 items and this data set has 818 participants.

Phase Two involved estimating prevalence of PTSD and CPTSD from ITQ scores and assessing if there were differences between genders. The association between diagnostic status, trauma levels and military exposure on demographic factors were assessed. The relationships between military exposure, positive school climate and age on trauma levels were assessed. Differences in military exposure and school climate for gender were evaluated. A cautionary note with all of these analyses is that the SCS and Military Exposure Scale are not validated.

Prior to analyses, all data were examined for accuracy of data entry and missing values. In line with current guidance (Tabachnick and Fidell, 2013), as no individual items used in analysis had missing data over 5%, it was concluded that the problem of missing data could be managed in a variety of ways. Therefore based on guidance, the 'exclude cases pairwise' option was chosen to manage missing data (Pallant, 2016). All scales were checked to determine if assumptions of normality were met using Kolmogorov-Smirnov test and inspection of plots. The risk of skewness and kurtosis is minimised with large samples (e.g. greater than 200) (Tabachnick and Fidel, 2013).

Results

Phase one of analysis

Principal Components Analysis of the Arabic 18-item ITQ

The Arabic 18-item ITQ was subjected to PCA using SPSS Version 28 using the full data set. Prior to performing PCA, the suitability of data was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value was .908, exceeding

the recommended value of .6 (Kaiser, 1970) and Bartlett's test of sphericity reached statistical significance (p=.000), supporting the factorability of the correlation matrix.

PCA revealed the presence of three components with eigenvalues exceeding 1, explaining 39.6%, 9.3% and 7% of the variance respectively and a cumulative 56%. An inspection of the scree plot revealed a clear break after the first component, a slight break after the second component and an even slighter break after the third. Parallel Analysis was used to support the decision to retain three components for further investigation.

The three-component solution explained a total of 56% of the variance, with Component 1 contributing 39.6%, Component 2 contributing 9.3% and Component 3 contributing 7%. Oblimin rotation was performed to aid interpretation. The rotated solution revealed the presence of three components with all components showing a number of strong loadings and all variables loading substantially on only one component (see Table 4). From this analysis the ITQ appears to have three subscales. Firstly, 'Functional difficulties' within the past month (e.g. "Affected your work or your ability to work; Affected any other important parts of your life such as parenting or school or college work or other important activities"). Secondly, 'Negative self-concept' (e.g. "I feel worthless; I feel like a failure"). Thirdly, 'PTSD symptoms' (e.g. "Having powerful images or memories that sometimes come into your mind in which you feel the experience is happening again in the here and now; Having upsetting dreams that replay part of the experiences or are clearly related to the experiences"). There was a correlation between 'Functional difficulties' and 'Negative self-concept' (r=.471), between 'Functional difficulties' and 'PTSD symptoms' (r=.563) and between 'Negative self-concept' and 'PTSD symptoms' (r=.377). See Appendix 7 (Page 110) for full data tables of PCA.

Table 4: Summary of PCA results for Arabic 18-item ITQ (N=818)

Items	Pattern Coefficients			Structure Coefficients			Communalities
	Components			Components			
	1	2	3	1	2	3	
ITQC8P-In the past month, affected your work or ability to work?	**0.89**	0.07	-0.14	**0.85**	0.44	0.39	0.73
ITQC9P-In the past month, affected any other important parts of your life such as parenting or school or college work, or other important activities?	**0.81**	0.12	-0.12	**0.80**	0.46	0.39	0.66
ITQPP8-In the past month, affected your work or ability to work?	**0.79**	-0.10	0.10	**0.81**	0.31	0.51	0.66
ITQPP9-In the past month, affected any other important part of your life such as parenting, or school or college work, or other important activities?	**0.79**	-0.08	0.09	**0.81**	0.33	0.51	0.66
ITQPP7-Affected your relationship or social life	**0.74**	0.01	0.15	**0.83**	0.42	0.57	0.71
ITQC7P-In the past month, created concern or distress about your relationships or social life?	**0.67**	0.12	0.09	**0.78**	0.47	0.51	0.62
ITQC4-I feel worthless.	-0.03	**0.88**	-0.02	0.37	**0.86**	0.30	0.74
ITQC3-I feel like a failure.	-0.00	**0.85**	-0.04	0.38	**0.84**	0.28	0.70
ITQC5-I feel distant or cut off from people.	-0.02	**0.81**	0.07	0.40	**0.83**	0.36	0.68
ITQC6-I find it hard to stay emotionally close to people	0.14	**0.61**	0.05	0.46	**0.70**	0.36	0.51
ITQC2-I feel numb or emotionally shut down.	0.19	**0.35**	0.24	0.49	**0.53**	0.48	0.39

ITQP2-Having powerful images or memories that sometimes come into your mind in which you feel the experience is happening again in the here and now?	-0.01	-0.11	**0.74**	0.36	0.16	**0.69**	0.49
ITQP1-Having upsetting dreams that replay part of the experiences or are clearly related to the experiences?	-0.02	-0.02	**0.72**	0.38	0.24	**0.70**	0.49
ITQP5-Being "super-alert", watchful, or on guard?	-0.06	0.11	**0.64**	0.36	0.33	**0.65**	0.43
ITQP6-Feeling jumpy or easily startled?	-0.03	0.08	**0.63**	0.36	0.30	**0.65**	0.42
ITQP3-Avoiding internal reminders of the experience (for example, thoughts, feelings, or physical sensations)?	0.11	-0.01	**0.57**	0.42	0.25	**0.63**	0.40
ITQP4-Avoiding external reminders of the experience (for example, people, places, conversations, objects, activities, or situations)?	0.07	0.14	**0.51**	0.42	0.36	**0.60**	0.38
ITQC1-When I am upset, it takes me a long time to calm down.	0.28	-0.01	**0.42**	0.52	0.28	**0.58**	0.39

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Note: Major loadings for each item are bolded.

Principal Components Analysis of SCS

SCS was subjected to PCA using SPSS Version 28 using the full data set. Prior to performing PCA, the suitability of data was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The KMO value was .93, exceeding the recommended value of .6 (Kaiser, 1970, 1974) and Bartlett's test of sphericity reached statistical significance (p=.000), supporting the factorability of the correlation matrix.

PCA revealed the presence of eight components with eigenvalues exceeding 1, explaining 24.8%, 5.1%, 4.7%, 4.3%, 3.5%, 3.3%, 3% and 2.9% of the variance respectively. An inspection of the scree plot revealed a clear break after the first component and a slight break after the fourth component. Parallel Analysis was used to support the decision to retain four components for further investigation.

The four-component solution explained a total of 38.9% of the variance, with Component 1 contributing 24.8%, Component 2 contributing 5.1%, Component 3 contributing 4.7% and Component 4 contributing 4.3%. Oblimin rotation was performed to aid interpretation. After examining the components and the items which loaded onto them, it was determined that Component 4 did not appear to be measuring a clear construct (for example the four items which loaded onto this component were: "the school is cramped and there are no spaces for recreational activities and sports; discipline is fair; the school library lacks books that students prefer; specific students in the school are repeatedly selected to participate in class, school activities, and helping teachers"). The Communalities table provides information about how much of the variance in each item is explained and low values (e.g. less than .3) can indicate that the item does not fit well with the other items in its component. Two out of the four items which loaded onto Component 4 were under .3 which would indicate these items do not fit well. Therefore, it was decided that a three-factor solution would be more appropriate and theoretically useful.

The three-component solution explained a total of 34.6% of the variance, with Component 1 contributing 24.8%, Component 2 contributing 5.1% and Component 3 contributing 4.7%. Oblimin rotation was performed to aid interpretation. The rotated solution revealed the presence of three components with all components showing several strong loadings and majority of variables loading substantially on only one component (see Table 5).

Table 5: Summary of PCA results for SCS (*N*=818)

Items	Pattern Coefficients			Structure Coefficients			Commu-nalities
	Components			Components			
	1	2	3	1	2	3	
SC31-My teachers understand and help me with my problems	**0.70**	0.03	-0.07	**0.73**	0.24	-0.27	0.54
SC27-I am happy about the amount and type of my school homework	**0.63**	-0.04	0.02	**0.61**	0.13	-0.14	0.37
SC22-Students can express their feelings and thoughts about school work and life	**0.61**	-0.07	-0.16	**0.64**	0.14	-0.31	0.43
SC5-I am happy about the number of tests I have	**0.60**	0.07	-0.00	**0.62**	0.24	-0.18	0.40
SC30-My teachers care about me, respect me, and make me feel good about myself	**0.58**	0.17	-0.17	**0.68**	0.36	-0.36	0.52
SC23-At school, decisions are made based on what is best for students	**0.58**	-0.01	-0.27	**0.65**	0.20	-0.42	0.48
SC26-Teachers usually make my assignments clear for me to understand, perform and get the grades I want	**0.57**	0.18	-0.03	**0.63**	0.34	-0.21	0.43
SC14-Problems in my school are solved by students and staff	**0.57**	0.08	-0.20	**0.64**	0.28	-0.37	0.46
SC33-Students get along well with teachers	**0.56**	0.11	-0.17	**0.64**	0.30	-0.34	0.45
SC6-I am prepared for tests	**0.52**	0.26	0.14	**0.55**	0.38	-0.05	0.37
SC10-At my school, students are encouraged to work to the best of their abilities	**0.50**	0.14	-0.30	**0.62**	0.34	-0.45	0.49

SC19-This school makes students enthusiastic about learning	**0.47**	0.19	-0.29	**0.60**	0.38	-0.45	0.49
SC34 -I have a good relationship with my teachers and they are available when I need them	**0.45**	0.23	-0.04	**0.53**	0.37	-0.20	0.33
SC15-My parents talk with teachers about what is happening at home	**0.43**	-0.22	0.09	**0.35**	-0.11	0.02	0.18
SC16-Females and males are treated as equals at school	**0.35**	0.03	0.09	**0.33**	0.11	-0.01	0.12
SC8- I try hard to do well in school	0.06	**0.67**	0.10	0.22	**0.67**	-0.04	0.46
SC1-There is a room in the school for the school counsellors and social workers	-0.30	**0.55**	-0.21	-0.09	**0.51**	-0.23	0.35
SC12-My teachers make it clear to me when I have misbehaved in class	0.16	**0.53**	0.10	0.28	**0.56**	-0.04	0.34
SC9- If I like my school, I will do better in my classes	0.08	**0.49**	0.07	0.20	**0.50**	-0.05	0.26
SC7-I do my schoolwork even when I do not feel like it	0.20	**0.47**	0.21	0.27	**0.48**	0.07	0.29
SC4-I feel that I can do well in this school	0.19	**0.41**	-0.19	0.36	**0.50**	-0.31	0.33
SC32-I feel cared and supported by my parents for education	0.21	**0.39**	-0.06	0.34	**0.46**	-0.19	0.26
SC17-Students who are ‘different’ in any way are treated with respect	-0.01	**0.31**	-0.30	0.16	**0.36**	-0.36	0.22
SC13-I am safe at my school	0.24	0.29	-0.26	0.39	0.41	-0.38	0.31
SC29-Students in this school bully, tease, or put others down	-0.08	0.16	**0.58**	-0.19	0.03	**0.57**	0.35

SC20-When students see another student being picked on, they try to stop it	0.35	-0.07	**-0.53**	0.47	0.13	**-0.61**	0.48
SC25-My school's various spaces, grounds, classrooms and toilets are kept clean and well organized	0.27	-0.02	**-0.51**	0.40	0.15	**-0.58**	0.40
SC21-Students in this school help each other, even if they are not friends	0.21	0.11	**-0.49**	0.37	0.26	**-0.56**	0.38
SC35-Students respect and cooperate with each other	0.28	0.09	**-0.48**	0.44	0.27	**-0.57**	0.42
SC3-The school is cramped and there are no spaces for recreational activities and sports	0.12	-0.18	**0.44**	-0.05	-0.23	**0.45**	0.24
SC24-My school buildings are generally pleasant and well maintained	0.29	0.14	**-0.44**	0.44	0.30	**-0.54**	0.40
SC18-I am happy, in general, with the other students in my school	0.04	0.34	**-0.39**	0.24	0.43	**-0.46**	0.33
SC2-The school library lacks books that students prefer	0.01	0.15	**0.30**	-0.03	0.09	**0.27**	0.10
SC11-Discipline is fair	0.03	-0.12	0.28	-0.08	-0.16	0.30	0.10
SC28-Specific students in the school are repeatedly selected to participate in class, school activities, and helping teachers	0.01	0.07	0.25	-0.04	0.02	0.24	0.06

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Note: Major loadings for each item are bolded.

From this analysis three subscales of school climate can be derived which have been labelled by the lead researcher: ‘Being safe and supported to achieve academic goals’; ‘Doing well at school’; ‘School environment including peer relationships’. See Table 6 for subscales and examples of the items which have loaded onto each subscale (four highest loading items). The third subscale has items which are reverse scored (higher scores would measure a good school climate and lower scores would measure a poor school climate) making the rating system consistent across components and for the final score.

Table 6: SCS Subscales and example items

Subscale	Number of items	Example items
Being safe and supported to achieve academic goals	15	My teachers understand and help me with my problems
		I am happy about the amount and type of my school homework
		Students can express their feelings and thoughts about schoolwork and life
		I am happy about the number of tests I have
Doing well at school	8	I try hard to do well in school
		There is room in the school for the school counsellors and social workers
		My teachers make it clear to me when I have misbehaved in class
		If I like my school I will do better in my classes
School environment including peer relationships	9	Students in this school bully, tease or put others down (reversed scored)
		When students see another student being picked on, they try to stop it
		My school’s various spaces, grounds, classrooms and toilets are kept clean and well organised
		Students in this school help each other, even if they aren’t friends

There were three items which did not load above .3 on any subscale and these were discarded: “Discipline is fair, I am safe at my school, Specific students in the school are repeatedly selected to participate in class, school activities, and helping teachers”.

There was a weak correlation between subscales: ‘Being safe and supported to achieve academic goals’ and ‘Doing well at school’ (r=.283), a weak negative correlation between ‘Being safe and supported to achieve academic goals’ and ‘School environment including peer relationships’ (r=-.267) and a weak negative correlation between ‘Doing well at school’ and ‘School environment including peer relationships’ (r=-.190). See Appendix 8 for internal reliability of subscales (Page 113). See Appendix 9 for full data tables of PCA (Page 114).

Phase two data analysis

Prevalence of PTSD and CPTSD from ITQ diagnostic scores

The rates of PTSD using the ITQ in this sample were 17.7% (n=145); of CPTSD were 18.8% (n=154); and of no diagnosis were 61% (n=499).

A chi-square test for independence (with Yates’ Continuity Correction) indicated there was a significant gender difference for both PTSD (male=11.6%, female=22.6%; x^2 (1, n = 792) = 14.828, p <.001) and CPTSD (male=15%, female=22.2%; x^2 (1, n = 792) = 5.801, p =.016), supporting the prediction of higher rates of PTSD and CPTSD in females. The effect sizes of gender differences were small for PTSD (*phi* = .14) and very small for CPTSD (*phi* = .089).

The rates of endorsement at the symptom cluster level are reported in Table 7. A chi-square test for independence (with Yates’ Continuity Correction) indicates significantly more females met the diagnostic criteria for the Re-experiencing, Avoidance, Sense of threat and Affective dysregulation clusters.

Table 7: Rates of endorsement and gender differences at the symptom cluster level

	Total	Male n (%)	Female n (%)	X^2 (df) ***P*** *phi*
Re-experiencing	592 (73.6%)	209 (64.3%)	383 (80%)	**23.63 (1) <.001 .17**
Avoidance	544 (68.4%)	196 (60.9%)	348 (73.6%)	**13.73 (1) <.001 .13**
Sense of threat	593 (73.8%)	219 (67.4%)	374 (78.2%)	**11.26 (1) <.001 .12**
Functional Impairment (PTSD)	520 (65.2%)	200 (61.7%)	320 (67.7%)	2.72 (1) .099 .06
Affective dysregulation	591 (74.7%)	206 (65.2%)	385 (81.1%)	**24.44 (1) <.001 .18**
Negative self-concept	370 (47.7%)	152 (49.4%)	218 (46.6%)	.47 (1) .495 -.03
Disturbances in relationships	455 (57.3%)	181 (56.6%)	274 (57.8%)	.08 (1) .784 .01
Functional Impairment (DSO)	524 (65.1%)	213 (64.7%)	311 (65.3%)	.01 (1) .921 .01

There were no differences in rates of PTSD or CPTSD by governorate, living in a refugee camp, village or city or school grade. However a chi-square test for independence indicated there was a significant difference for PTSD diagnosis depending on what zone of the country participants lived in (e.g. North, Centre or South) (see Appendix 10, page 117 for statistical results).

Relationships between trauma, school climate, military exposure, and age

In the previous analysis, percentages above and below diagnostic cut off rates were examined. In this analysis, the sums of scores of four, dimensional trauma scores ('PTSD' and 'DSO' as scored by the ITQ original scoring and 'PTSD symptoms' and 'Negative self-concept' as scored after PCA) will be examined to provide an indication of the variation of trauma reactions across the sample and these variations will be examined in relation to the level of exposure to potential threats such as military exposure and potential protective/stress buffering factors such as school climate.

Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. Pearson product-moment correlation coefficients found weak correlations for high levels of military exposure associated with high levels of trauma responses. There were weak, negative correlations with high levels of school climate associated with low levels of trauma responses. There was no relationship found between age and trauma responses (see Table 8).

Therefore, there is evidence to support the hypothesis that an increase in military exposure will increase trauma levels for Palestinian young people (for both the original scoring of the ITQ and the scoring resulting from the PCA). There is also evidence to support the hypothesis that a positive school climate will decrease trauma levels for Palestinian young people using the SCS. However, only two of the three school climate subscales confirmed from the PCA, have demonstrated a relationship with trauma levels and it will be necessary to further evaluate this measure and its subscales in future research. Furthermore, these relationships were weak correlations, with no clear linear relationship. To draw any definite conclusions from these findings further exploration will be required.

Table 8: Pearson correlation analysis comparing trauma levels with age, military exposure and school climate

	Dimensional: PTSD Total Score	Dimensional: DSO Total Score	ITQ Subscale 'PTSD symptoms'	ITQ Subscale 'Negative self-concept'
Age	.05	.03	.06	.01
Military Exposure Scale Total Score	.23**	.24**	.24**	.23**
SCS Total	-.14**	-.16**	-.16**	-.14**
SCS 'Safe and supported to achieve academic goals'	-.13**	-.17**	-.15**	-.16**
SCS 'Doing well at school'	.01	-.07	.01	-.09*
SCS 'School environment including peer relationships'	-.13**	-.16**	-.14**	-.15**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Military exposure differences between genders

An independent samples t-test found that males reported significantly more frequent military exposure than females but the absolute rates are still high in both groups (mean of >40 in both groups) (males: *M*=45.09, *SD*=13.99; females *M*=41.62, *SD*=9.9; *t* (601) = 3.27, *p* = 0.01, two tailed). The magnitude of the differences in the means (mean difference = 3.47, 95% *CI*: 1.38 to 5.55) was small (Cohen's d=0.29).

School climate differences between genders

Contrary to our hypothesis, an independent samples t-test found that males rated school climate more positively than females (males: *M*=120.50, *SD*=18.22; females: *M*=114.21, *SD*=17.95; *t* (496) = 3.74, *p* < 0.01, two tailed). The magnitude of the differences in the means (mean difference = 6.29, 95% *CI*: 2.98 to 9.59) was small (Cohen's d=0.348).

Males scored significantly higher than females for SCS subscale 'Safe and supported to achieve academic goals' (males: *M*=53.96, *SD*=10.65; females: *M*=49.44, *SD*=10.78; *t* (613) = 5.10, $p < 0.01$, two tailed). The magnitude of the differences in the means (mean difference = 4.52, 95% *CI*: 2.78 to 6.27) was small (Cohen's d=0.42). However the confidence intervals for both comparisons for these estimates are broad and so the actual effect size may be different from the point estimate. There was no significant difference for gender for the other two SCS subscales (see Appendix 11 for statistical results, page 119).

Exploring differences between where participants live, trauma levels, and military exposure levels

A one-way between groups analysis of variance was conducted to explore the impact of where participants live (e.g. city, village, or refugee camp) on levels of self-reported trauma symptoms. The predicted elevation in trauma reactions in people living in refugee camps was not observed and the predicted increase in military exposure in refugee camps (compared to living in a city or a village) was not observed (see Appendix 12 for statistical results, page 120). This may be due to the small number of participants who live in refugee camps (3.9% of total participant number).

Discussion

Most of what is known about PTSD and CPTSD is taken from a narrow range of samples in high-income countries, without due regard to the need to work with local people to investigate these phenomena and using measures that have been adapted for the context. This study sought to advance the existing literature by completing exploratory PCA on the Arabic 18-item ITQ and the newly created SCS within a non-Western, non-clinical population. Additionally, this study was the first to report on the prevalence of ICD-11 PTSD and CPTSD within a Palestinian general population sample of young people, using a disorder specific measure. It was also the first to explore the construct of school climate in a Palestinian population and whether it impacts a trauma response.

Exploring the factor structure of the Arabic 18-item ITQ

An important part of this study was to use PCA to analyse the Arabic 18-item ITQ and the newly created SCS. There is no prior research exploring the factor analysis of the Arabic 18-item ITQ. Analysis of the English ITQ (Cloitre et al, 2018) found two models, Model 1: correlated six-factor model (Re, Av, Th, AD, NSC, DR). Model 2: two-factor second-order model whereby the first-order factor correlations are explained by two correlate second-order factors: PTSD and DSO. Previous research on the Arabic 34-item ITQ indicated that a correlated first-order model with three latent variables (Re, Av, Th) representing PTSD and four latent variables (Hyperarousal, Hypoarousal, NSC, DR) representing DSO was the best fitting model (Ben-Ezra et al., 2018).

The current study has employed PCA due to both the limited research on this version of the measure; and exploration into PTSD and CPTSD within a Palestinian population due to concerns that measurement and diagnoses are dominated by Western concepts. This analysis has identified three subscales: PTSD symptoms, Negative self-concept and Functional difficulties. This analysis differs from prior analysis as it has separated the functional difficulties from the PTSD and DSO symptoms, potentially demonstrating that the population identified that any of the symptoms of PTSD or DSO had an impact on their functioning. Interestingly, the affective dysregulation item for hyperarousal ("When I am upset it takes me a long time to calm down") loads onto the PTSD symptoms rather than DSO symptoms. Potentially this is due to the translation of the question, resulting in responses being more aligned to PTSD symptoms. However, it may be due to differences in affective dysregulation or trauma symptoms for this population compared to Western populations. Furthermore, the other affective dysregulation item for hypoarousal ("I feel numb or emotionally shut down") was the lowest loading item, suggesting there was not a strong relationship with the other items in the negative self-concept variable. This highlights the importance of exploring the features of scales rather than forcing the original scoring and sub-scale structure based on very different populations and cultures.

Interestingly, Ben-Ezra and colleagues' (2018) analysis on the Arabic 34-item ITQ suggested that the hyperactivation and hypoactivation indicators were best represented

by two correlated latent variables rather than one latent variable. Research examining the role of specific facets of emotional dysregulation (Bennett et al., 2015) has shown specificity in the relationship between types of trauma and types of difficulties in emotional regulation. Therefore, separately distinguishing and assessing hyperactivation and hypoactivation for CPTSD due to exposure to different or multiple forms of trauma would be needed (Ben-Ezra et al, 2018). However, the results from this study suggest that they are not clearly separated to specify a DSO response. Previous research has commented that DSO constructs can be cross-diagnostic phenomena (e.g. emotional dysregulation is present in anxiety and affective disorders) (Hofmann et al., 2012). Further exploration into the Arabic ITQ measure is warranted.

Exploring the factor structure of the SCS

PCA for the SCS is the beginning of understanding the construct of school climate in a Palestinian population. Prior research on school climate with populations affected by ethnic-political violence (Israel) found that a safe, sheltering school environment; high standard of school facilities; and increased school attendance predicted lower levels of PTSD (Yablon, 2015, 2021) while school connectedness and teachers' support did not lower PTSD levels (Yablon, 2015). This study suggests school climate in Palestine comprises of three subscales: 'Safe and supported to achieve academic goals', 'School environment including peer relationships' and 'Doing well at school'. It appears that young people value being able to achieve their academic goals and being able to do well. Diab (2011) suggests that Palestinian children aim for good academic achievement to firstly, compensate for the national loss of land and secondly due to political self-determination.

This analysis of the SCS recognises the significance of peer relationships for Palestinian young people. Good peer relations promote children's mental health in war conditions (Peltonen et al., 2010). Mediating dynamics suggest that traumatic war experiences are associated with negative peer relations, which can increase mental health problems (e.g. depressive and PTS) (Hodes et al., 2008; Peltonen et al., 2010). Conversely, good friendship quality protected mental health from negative effects of war trauma (Peltonen et al., 2010). In war conditions, schools can provide a safe haven where children can

enjoy normal social and academic attainment which highlights the importance of measuring school climate to support their wellbeing.

The creators of the SCS (Guidance and Training Centre research team) identified the following main themes they hoped to capture: environment; teaching and learning; safety; and relationships. Of interest, safety does not appear to feature as a separate subscale in this study's analysis but appears to be factored into feeling safe expressing their feelings and thoughts with teachers, having positive, supportive relationships with teachers and potentially a lack of safety in peer relationships (e.g. "students in this school bully, tease or put others down"). Culturally adapting measures to match the context of administration enables clarity around what items are measuring. The item "I am safe at my school" potentially is too simplistic and incongruous to the ongoing ethnic-political conflict in the surrounding environment. The result of this analysis demonstrates that what construes school climate within a Palestinian population, differs from previous research on school climate in Western populations.

Exploring PTSD and CPTSD prevalence

Research has demonstrated that trauma events can, for some people, result in traumatic reactions that are above the threshold for PTSD. Within this pathway some factors worsen or ameliorate the distress reaction shown (e.g., supportive home life, support from school). Repeated trauma (e.g. living with occupation every day) has effects on more pervasive aspects of self-functioning and leads to DSO symptoms (e.g. emotion dysregulation, relationship problems, negative self-concept). This study has sought to explore whether young people in Palestine who are exposed to ethnic-political violence would experience more complex reactions extending beyond those typically observed in PTSD, including difficulties with emotion regulation, self-identity and relational capacities, at a rate which is higher than other samples.

In this sample of Palestinian students, the estimated prevalence of PTSD was 17.7% and of CPTSD was 18.8%. Ben-Ezra and colleagues (2018) reported lifetime prevalence rates of PTSD (9%) and CPTSD (2.6%), and in their study a combined prevalence rate of ICD-

11 PTSD and CPTSD (11.6%) among an Israeli general adult population. They indicated that ICD-11 PTSD is more common in the general population compared to CPTSD. However, this study contradicts this conclusion as the rates of ICD-11 PTSD and CPTSD are similar for young people in this non-clinical population. There is no previous research with adolescents exposed to ethnic-political violence which has investigated prevalence rate of CPTSD. However, a study on adolescents in Gaza found that 56.8% scored within the clinical range of PTSD, compared to 6.3% in peacetime populations (Kolltveit et al., 2012). The current study's combined prevalence rate (36.5%) of PTSD and CPTSD is lower than the PTSD scores in Kolltveit and colleagues' (2012) study. However, they used the Revised Child Impact of Event Scale, for classification rather than diagnostic purposes of PTSD and this may have resulted in an overestimation of PTSD "caseness". The data described from these studies suggests a gradient of trauma reactions that is consistent with what is known about the trauma exposure rates across context. This current study's data from the West Bank appears to be between the trauma rate in Gaza and the trauma rate in non-military conflict zones, which would be expected if there was a dose-dependent relationship between levels of traumatisation and PTSD/CPTSD base rates.

Exploring demographic variables and trauma rates

This study found statistically significant gender differences for PTSD and CPTSD, where more females met the diagnostic criteria for both. Significantly more females met the diagnostic criteria for the sub-domains of Re-experiencing, Avoidance, Sense of threat and Affective dysregulation. Previous studies with clinical (Karatzias et al., 2016, 2017) and community (Hyland et al., 2017) samples have indicated that females are more likely to meet diagnostic status for ICD-11 PTSD and CPTSD; findings that are consistent with the wider trauma literature (Christiansen & Elklit, 2012). However, Ben-Ezra and colleagues (2018) only found a meaningful gender difference for PTSD but not CPTSD, which they proposed may be due to the non-clinical nature of the population. Further examination of gender differences especially for DSO clusters is required, particularly for different cultural and non-clinical populations.

Regarding other demographic relationships, age and trauma were not significant and in previous research there are mixed findings for age and trauma levels. Khamis (2005) argued that the developmental stage of the child may affect their interpretations of the meaning of traumas, therefore age may not be as relevant. Previous studies have found a difference in PTSD symptomology for children living in refugee camps (Khamis, 2005). A potential reason for lack of significance in this study may be due to small numbers of participants in refugee camps (3.9%). However there was a significant difference in PTSD diagnosis between the different zones of West Bank, with the North zone having a higher percentage of PTSD diagnosis. Further research could consider reasons for this difference, for example more exposure to ethnic-political violence. As expected, an increase in military exposure did increase trauma levels.

Exploring the impact of school climate on trauma

Finally, there is evidence supporting the existing research regarding positive school climate decreasing trauma levels. However only two school climate subscales ('Safe and supported to achieve academic goals', 'School environment including peer relationships') have demonstrated a relationship with trauma levels. In terms of these features of school climate interfacing with CPTSD responses, potentially negative self-concept could be ameliorated by having access to a school environment that supports learning and meeting ones potential. Conversely, being thwarted in achieving ones academic goals could possibly amplify negative-self-concept which arises from repeated trauma. Additionally, education is viewed as important for war-affected children because it can enhance self-esteem and encourage hope for the future (Betancourt, 2011; Diab, 2011) which could ameliorate the impact of trauma. The values which are placed on schooling by this population may demonstrate why a measure for school climate is relevant in Palestine. If we consider that exposure to trauma and trauma symptoms is inevitable in a Palestinian environment, being able to focus on values to live a meaningful life may weaken the pathway of trauma to PTSD/CPTSD. Therefore being safe and supported to achieve academic goals, having a positive school environment and having positive peer relationships appear to be very relevant in this non-Western context.

Overall, this study aimed for a preliminary exploration of trauma responses in young people exposed to ethnic-political violence in Palestine, including potential stressors (e.g. military exposure) and protective factors (e.g. positive school climate) impacting trauma response. The current findings may be unique to the sociocultural context of Palestine and specifically the West Bank. However, it is important to consider the generalisability of these findings. Other studies have also found school climate as a protective factor for young people's wellbeing (see systematic review by Aldridge and McChesney, 2018). Furthermore, studies have demonstrated school climate having a meaningful effect on wellbeing for young people exposed to community violence and other forms of violence against them (Kasen et al., 2004; Bender, 2012; Thapa et al., 2013). Throughout the world, regardless of context and stressors, schools are viewed as places where young people can be supported to grow and develop, particularly those who are exposed to adversity. Therefore, this study provides additional evidence of the importance of school climate for young people exposed to stressors.

Limitations

Limitations include the use of self-report, as opposed to clinician-administered diagnostic interview which may have overestimated diagnostic rates. Regarding school climate, this study has focused solely on young people's perception rather than the wider school community. The sample size included 3.9% of participants in refugee camps. The United Nations Relief and Works Agency report 871,000 registered refugees living in the West Bank, around a quarter living in refugee camps[3] (approximately 217,750). The Arab Centre Washington DC report 3.2 million Palestinians live in the West Bank[4]. Therefore, approximately 6.8% of Palestinians in the West Bank live in refugee camps, meaning this study's sample is slightly lower than the overall population, which could impact on the results of analysis. Another limitation is that we do not have information concerning how the symptoms reported are understood within the Palestinian context, and what other issues are important to young people and their coping. The lead author is aware of the cultural limitations they bring as a Western researcher, not immersed in the Palestinian

[3] UNRWA

[4] Brief Report on the Population of Palestine at the End of 2021

culture. The use of questionnaires to measure these constructs may be a Westernised approach and qualitative approaches should be considered. This will be particularly helpful if it is possible to conduct qualitative research in the preferred spoken language of the respondents and with researchers who have the cultural and linguistic familiarity with the target population to make appropriate sense of the responses supplied.

Further Directions

This is the first stage of researching predominantly Western constructs of school climate, trauma and trauma symptoms in a Palestinian sample. The SCS has been created to try and best measure this concept in this culture. However preliminary analysis has led to a different subcomponent structure than was initially proposed. Therefore, future studies should focus on confirmatory factor analysis of the SCS. Exploratory research into cultural views on trauma and symptoms of trauma would further develop our understanding of differences in this population. An important consideration should be working with local people to investigate these phenomena and using measures that have been adapted for the context.

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Appendices

Appendix 1: Previous MRP Proposal

https://osf.io/73edt/files/osfstorage/62e39af83f1ed301f2411688

Appendix 2: MRP Proposal

https://osf.io/73edt/files/osfstorage/62e39b0c3f1ed301f8411dea

Appendix 3: Individual Database Searches

Final search ran on 28th June 2022

APA PsycInfo <1806 to June Week 3 2022>

1 school environment/ or school safety/ or classroom environment/

2 ((school* or classroom*) adj2 (saf* or connect* or experience* or environment* or climate* or belonging or support)).ti,ab.

3 political violence/ or refugees/ or terrorism/

4 refugee*.ti,ab.

5 ((war or wars or political* or ethno*) adj2 violence).ti,ab.

6 ((armed* or political* or ethno* or violen* or zone*) adj2 conflict*).ti,ab.

7 terror*.ti,ab.

8 4 or 5 or 6 or 7

9 posttraumatic stress/ or posttraumatic stress disorder/ or psychosocial outcomes/ or psychosocial development/ or socioemotional functioning/

10 (PTSD or posttrauma* or post-trauma*).ti,ab.

11 ((psychosocial or psychological or socio?emotional) adj2 (adjust* or outcome* or functioning or development)).ti,ab.

12 1 or 2

13 3 or 8

14 9 or 10 or 11

15 12 and 13

16 12 and 14

17 15 or 16

18 limit 17 to (all journals and English language)

Ovid MEDLINE(R) ALL <1946 to June 27, 2022>

1 Schools/

2 ((school* or classroom*) adj2 (saf* or connect* or experience* or environment* or climate* or belonging or support)).ti,ab.

3 Refugees/ or Terrorism/ or Armed Conflicts/

4 refugee*.ti,ab.

5 ((war or wars or political* or ethno*) adj2 violence).ti,ab.

6 ((armed* or political* or ethno* or violen* or zone*) adj2 conflict*).ti,ab.

7 terror*.ti,ab.

8 4 or 5 or 6 or 7

9 "trauma and stressor related disorders"/ or stress disorders, post-traumatic/ or psychosocial functioning/

10 (PTSD or posttrauma* or post-trauma*).ti,ab.

11 ((psychosocial or psychological or socio?emotional) adj2 (adjust* or outcome* or functioning or development)).ti,ab.

12 1 or 2

13 3 or 8

14 9 or 10 or 11

15 12 and 13

16 12 and 14

17 15 or 16

18 limit 17 to English language

ERIC <1965 to April 2022>

1 school safety/

2 student school relationship/ or teacher student relationship/

3 educational environment/

4 ((school* or classroom*) adj2 (saf* or connect* or experience* or environment* or climate* or belonging or support)).ti,ab.

5 terrorism/ or war/

6 refugee*.ti,ab.

7 ((war or wars or political* or ethno*) adj2 violence).ti,ab.

8 ((armed* or political* or ethno* or violen* or zone*) adj2 conflict*).ti,ab.

9 terror*.ti,ab.

10 6 or 7 or 8 or 9

11 posttraumatic stress disorder/ or "symptoms (individual disorders)"/

12 (PTSD or posttrauma* or post-trauma*).ti,ab.

13 ((psychosocial or psychological or socio?emotional) adj2 (adjust* or outcome* or functioning or development)).ti,ab.

14 1 or 2 or 3 or 4

15 5 or 10

16 11 or 12 or 13

17 14 and 15

18 14 and 16

19 17 or 18

20 limit 19 to (English language and journal articles)

Appendix 4: Ethical approval for original study in Palestine

https://osf.io/73edt/files/osfstorage/62e39b5b3f1ed301f8411e96

Appendix 5: Consent form for original study in Palestine

https://osf.io/73edt/files/osfstorage/62e39bb74fcb2d01fb071254

Appendix 6: MVLS Ethical approval

Professor Hamish McLeod
MVLS College Ethics Committee

Major Research Project for Doctorate in Clinical Psychology: The effect of school climate on trauma responses in young people exposed to ethnic-political violence in Palestine

200210174

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. We are happy therefore to approve the project, subject to the following conditions

- Project end date as stipulated in original application.

- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (http://www.gla.ac.uk/media/media_227599_en.pdf)

- The research should be carried out only on the sites, and/or groups defined in the application.

- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.

- For projects requiring the use of an online questionnaire, the University has an Online Surveys account for research. To request access, see the University's application procedure at https://www.gla.ac.uk/research/strategy/ourpolicies/useofonlinesurveystoolforresearch/.

- You should submit a short end of study report within 3 months of completion.

Yours sincerely
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Dr Terry Quinn

Appendix 7: ITQ forced three-factor analysis (818 participants)

Figure 1. Scree plot from PCA for ITQ (*N*=818)

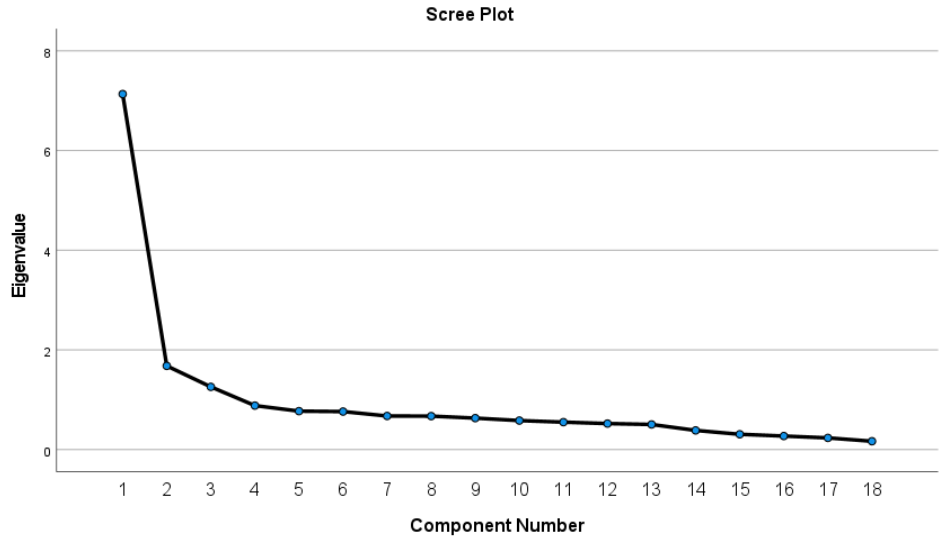

Table 1: Component Matrix from PCA for ITQ (*N*=818)

Component Matrix[a]			
	Component		
	1	2	3
ITQPP7-Affected your relationship or social life	0.793	-0.179	-0.219
ITQC7P- In the past month, Created concern or distress about your relationships or social life?	0.756	-0.075	-0.212
ITQC8P- In the past month, Affected your work or ability to work?	0.742	-0.074	-0.422
ITQPP9- In the past month, Affected any other important part of your life such as parenting, or school or college work, or other important activities?	0.729	-0.233	-0.277

ITQC9P- In the past month, Affected any other important parts of your life such as parenting or school or college work, or other important activities?	0.722	-0.029	-0.376
ITQPP8- In the past month, Affected your work or ability to work?	0.722	-0.253	-0.274
ITQC5- I feel distant or cut off from people.	0.612	0.543	0.122
ITQC2- I feel numb or emotionally shut down.	0.606	0.128	0.084
ITQC6- I find it hard to stay emotionally close to people	0.600	0.383	0.028
ITQC1- When I am upset, it takes me a long time to calm down.	0.581	-0.200	0.103
ITQP4- Avoiding external reminders of the experience (for example, people, places, conversations, objects, activities, or situations)?	0.560	-0.089	0.249
ITQP3- Avoiding internal reminders of the experience (for example, thoughts, feelings, or physical sensations)?	0.538	-0.220	0.249
ITQP1- Having upsetting dreams that replay part of the experiences or are clearly related to the experiences?	0.535	-0.254	0.374
ITQP5- Being “super-alert”, watchful, or on guard?	0.532	-0.124	0.360
ITQP6- Feeling jumpy or easily startled?	0.527	-0.151	0.346
ITQP2- Having powerful images or memories that sometimes come into your mind in which you feel the experience is happening again in the here and now?	0.496	-0.324	0.370
ITQC4- I feel worthless.	0.585	0.624	0.086

ITQC3- I feel like a failure.	0.576	0.606	0.061

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Appendix 8: Internal reliability of SCS subscales

Due to having a small number of items, the mean inter-item correlation values have also been reported (Pallant, 2016).

Table 2: Internal reliability of SCS subscales

Subscales of ITQ	Cronbach's α	Mean inter-item correlation
'Safe and supported to achieve academic goals' (15 items)	0.88	0.33
'Doing well at school' (8 items)	0.62	0.18
'School environment including peer relationships' (9 items)	0.74	0.24

A good Cronbach's alpha is above .7

A good mean inter-item correlation is .15 to .50

Appendix 9: SCS forced three-factor analysis (818 participants)

Figure 2: Scree plot from PCA for SCS (*N*=818)

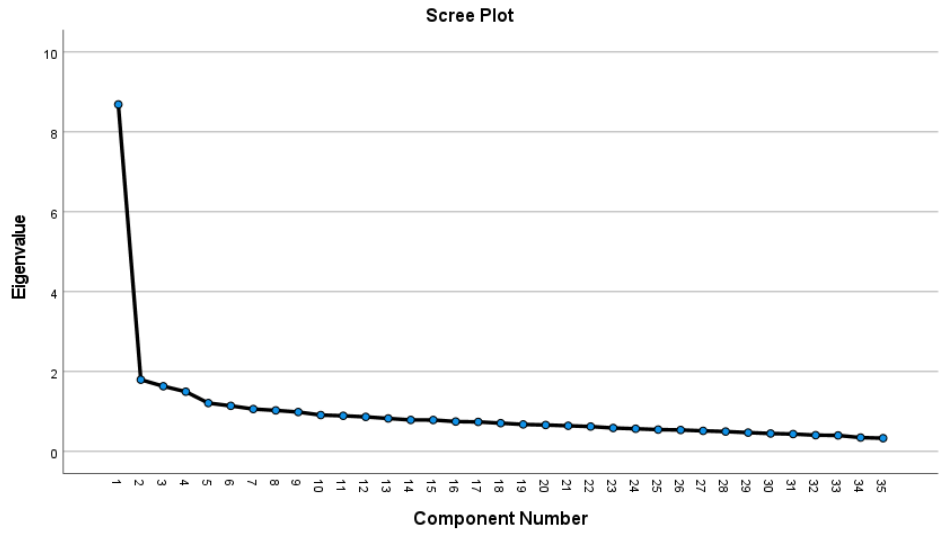

Table 3: Component Matrix from PCA for SCS (*N*=818)

Component Matrix[a]			
	Component		
	1	2	3
SC30- My teachers care about me, respect me, and make me feel good about myself	0.708	0.001	0.119
SC19- This school makes students enthusiastic about learning	0.697	-0.023	-0.018
SC10- At my school, students are encouraged to work to the best of their abilities	0.694	-0.069	0.006
SC31- My teachers understand and help me with my problems	0.673	-0.075	0.280
SC14- Problems in my school are solved by students and staff	0.662	-0.079	0.116

SC23- At school, decisions are made based on what is best for students	0.661	-0.178	0.107
SC33- Students get along well with teachers	0.658	-0.043	0.127
SC26- Teachers usually make my assignments clear for me to understand, perform and get the grades I want	0.617	0.073	0.205
SC22- Students can express their feelings and thoughts about school work and life	0.596	-0.175	0.211
SC35- Students respect and cooperate with each other	0.595	-0.166	-0.203
SC24- My school buildings are generally pleasant and well maintained	0.594	-0.115	-0.186
SC20- When students see another student being picked on, they try to stop it	0.593	-0.320	-0.158
SC5- I am happy about the number of tests I have	0.569	0.000	0.266
SC34 - I have a good relationship with my teachers and they are available when I need them	0.547	0.120	0.125
SC21- Students in this school help each other, even if they are not friends	0.544	-0.150	-0.249
SC25- My school's various spaces, grounds, classrooms and toilets are kept clean and well organized	0.540	-0.269	-0.200
SC13- I am safe at my school	0.528	0.087	-0.141
SC27- I am happy about the amount and type of my school homework	0.513	-0.082	0.324
SC4- I feel that I can do well in this school	0.512	0.221	-0.150
SC6- I am prepared for tests	0.511	0.212	0.262

SC18- I am happy, in general, with the other students in my school	0.462	0.091	-0.335
SC32- I feel cared and supported by my parents for education	0.439	0.252	-0.050
SC17- Students who are 'different' in any way are treated with respect	0.348	0.106	-0.289
SC16- Females and males are treated as equals at school	0.266	0.029	0.214
SC8- I try hard to do well in school	0.370	0.559	-0.102
SC12- My teachers make it clear to me when I have misbehaved in class	0.373	0.442	-0.010
SC7- I do my schoolwork even when I do not feel like it	0.305	0.437	0.095
SC9- If I like my school, I will do better in my classes	0.304	0.403	-0.060
SC29- Students in this school bully, tease, or put others down	-0.331	0.391	0.290
SC2- The school library lacks books that students prefer	-0.094	0.247	0.159
SC28- Specific students in the school are repeatedly selected to participate in class, school activities, and helping teachers	-0.110	0.164	0.145
SC1- There is a room in the school for the school counsellors and social workers	0.178	0.363	-0.435
SC3- The school is cramped and there are no spaces for recreational activities and sports	-0.275	0.052	0.398
SC15- My parents talk with teachers about what is happening at home	0.201	-0.166	0.328
SC11- Discipline is fair	-0.218	0.033	0.232

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Appendix 10: Differences in rates of PTSD or CPTSD by demographic

Table 4: Prevalence of PTSD, CPTSD and no diagnosis compared to zones

	Total	North	Centre	South	X^2 (df) P phi
PTSD Diagnosis	145 (18.2%)	79 (22.5%)	28 (13.0%)	38 (16.5%)	**8.839 (2) .012 .105**
CPTSD Diagnosis	154 (19.3%)	58 (16.5%)	42 (19.4%)	54 (23.5%)	4.382 (2) .112 .074
No Diagnosis	494 (62.3%)	213 (60.9%)	145 (67.4%)	136 (59.6%)	3.412 (2) .182 .066

Table 5: Prevalence of PTSD, CPTSD and no diagnosis compared to Governorate

	Total	Nablus	Qalqilya	Jerusalem	Ramallah	Bethlehem	X^2 (df) P phi
PTSD Diagnosis	145 (18.2%)	55 (21.8%)	24 (24%)	9 (12.2%)	19 (13.5%)	38 (16.5%)	8.897 (4) .064 .106
CPTSD Diagnosis	154 (19.3%)	39 (15.4%)	19 (19%)	14 (18.7%)	28 (20%)	54 (23.5%)	5.099 (4) .277 .080
No Diagnosis	494 (62.3%)	157 (62.5%)	57 (57%)	51 (68.9%)	93 (66.4%)	136 (59.6%)	4.281 (4) .369 .073

Table 6: Prevalence of PTSD, CPTSD and no diagnosis compared to place of residence

	Total	City	Village	Refugee Camp	X^2 (df) P phi
PTSD Diagnosis	140 (18.1%)	31 (16.6%)	107 (19.3%)	2 (6.3%)	3.873 (2) .144 .071
CPTSD Diagnosis	148 (19.1%)	40 (21.6%)	101 (18.2%)	7 (21.9%)	1.232 (2) .540 .040

No Diagnosis	480 (62.5%)	114 (61.6%)	343 (62.3%)	23 (71.9%)	1.276 (2) .528 .041

Table 7: Prevalence of PTSD, CPTSD and no diagnosis compared to school grade

	Total	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	X^2 (df) P phi
PTSD Diagnosis	144 (18.3%)	0 (0%)	16 (13.6%)	22 (17.7%)	18 (15.4%)	29 (15.1%)	30 (23.3%)	29 (27.4%)	12.174 (6) .058 .124
CPTSD Diagnosis	152 (19.3%)	1 (50%)	29 (24.6%)	25 (20.2%)	16 (13.9%)	38 (19.8%)	25 (19.2%)	18 (16.8%)	5.975 (6) .426 .087
No Diagnosis	487 (62.2%)	1 (50%)	73 (61.9%)	76 (61.8%)	81 (70.4%)	124 (64.9%)	74 (57.4%)	58 (55.2%)	7.507 (6) .277 .098

Appendix 11: Independent t-tests comparing gender with SCS subscales

There was no significant difference for gender for SCS subscale 'Doing well at school' (males: M = 32.60, SD = 4.59; females: (M = 33.07, SD = 3.79; t (498.9) = -1.41, p = .158, two tailed).

There was no significant difference for gender for SCS subscale 'School environment and peer relationships' (males: M = 32.13, SD = 6.35; females M = 31.54, SD = 6.41; t (682) = 1.19, p = .237, two tailed).

Appendix 12: ANOVA results comparing where participants live with trauma levels and military exposure

A one-way between groups analysis of variance was conducted to explore the impact of where participants live (e.g. city, village, or refugee camp) on levels of self-reported trauma symptoms[5]. The levels of trauma have been measured in four ways: PTSD scale and DSO scale (the original scoring from the ITQ) and 'PTSD symptoms' scale and 'Negative self-concept' scale (subscales found from PCA). Consequently, four analyses have been carried out to determine impact.

There was no effect of living situation (camp, city, or village) on ITQ PTSD or CPTSD scores (PTSD: $F(2, 66.15) = 2.30$, $p = .108$; CPTSD: $F(2, 667) = 1.38$, $p = .252$). These patterns were the same when the scores derived from the PCA were used instead of the original ITQ scores (PTSD symptoms: $F(2, 681) = 1.47$, $p = .230$; negative self-concept: $F(2, 672) = 2.75$, $p = .065$).

A one-way between groups analysis of variance was conducted to explore the impact of where participants live (e.g. city, village, refugee camp) on levels of military exposure (as measured by the Military Exposure Scale). There was a non-significant difference between where participants lived and the level of military exposure, ($F(2, 585) = 2.543$, $p = .079$).

[5] The assumption of homogeneity of variance was violated; therefore, the Welch *F*-ratio is reported

Appendix 13: List of abbreviations

Systematic Review

California School Climate and Safety Survey	CSCSS
Child Post Traumatic Stress Reaction Index	CPTS-RI
Classroom Environment Scale	CES
Crowe Critical Appraisal Tool	CCAT
Depression Self-rating Scale	DSRS
Diagnostic and Statistical Manual of Mental Disorders Version 5	DSM-V
Difficulties in Emotion Regulation Scale Short Form	DERS-SF
International Classification of Diseases, eleventh revision	ICD-11
low- and middle-income countries	LMICs
National School Climate Council	NSCC
Post-Traumatic Growth	PTG
Post-Traumatic Stress Disorder	PTSD
Post-Traumatic Stress Symptoms	PTS
Preferred Reporting Items for Systematic Reviews and Meta-analyses	PRISMA
Psychological Sense of School Membership Scale	PSSMS
School Connectedness Scale	SCS
School Environment Scale	SES
Strengths and Difficulties Questionnaire	SDQ
Trauma Exposure Scale	TES
UCLA PTSD Index for DSM-IV adolescent version	PTSD-I
War Trauma Screening Scale	WTSS

MRP

Complex PTSD	CPTSD
Diagnostic and Statistical Manual of Mental Disorders Version 5	DSM-5
Disturbances in Self-organisation	DSO
DSO symptoms:	
Affective dysregulation	AD

Negative self-concept	NSC
Disturbances in relationships	DR
International Classification of Diseases, eleventh revision	ICD-11
International Trauma Questionnaire	ITQ
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	KMO
National School Climate Council	NSCC
Post-Traumatic-Stress Disorder	PTSD
PTSD symptoms:	
Re-experiencing in the here and now	Re
Avoidance	Av
Sense of current threat	Th
Post-Traumatic-Stress symptoms	PTS
Principal Components Analysis	PCA
School Climate Scale	SCS