Rethinking post-primary school-based suicide prevention: understanding intervention effectiveness, implementation requirements and youth voice

RETHINKING POST-PRIMARY SCHOOL-BASED SUICIDE PREVENTION: UNDERSTANDING INTERVENTION EFFECTIVENESS, IMPLEMENTATION REQUIREMENTS AND YOUTH VOICE

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ABSTRACT

Globally, suicide is a leading cause of adolescent mortality. Although post-primary, school-based suicide prevention (PSSP) interventions are a promising preventive strategy, there are long-standing PSSP evidence-practice gaps. Adolescents typically engage with PSSP interventions in classrooms which are nested in schools and situated in diverse jurisdictions, yet consideration to contextual factors is lacking in PSSP research. A central aim of this programme of research is to enhance understanding of how PSSP interventions work and are effective, with a particular focus on youth voice and adolescents' experiences with PSSP interventions and suicide prevention and mental health in schools.

The first review employing a multi-level meta-analysis (n=12) showed that PSSP interventions targeting suicidal thoughts and behaviours as both primary intervention and secondary outcomes were associated with 13–15% and 28–34% lower odds of suicidal ideation and suicide attempts, respectively. Moderator analyses were non-significant (ps>.05).

The second systematic review (n=28) employing narrative synthesis demonstrated PSSP intervention effectiveness and a lack of reporting and analysis of intervention and contextual factors. Notably, adolescents had little involvement in designing, inputting on, and delivering PSSP interventions.

The meta-ethnographic review employing reciprocal translations and lines-of-argument synthesis revealed the importance of the following aspects of adolescents' engagement with PSSP interventions: (1) *how* adolescents were engaged, (2) trust in facilitators, school personnel and schools, and (3) the sharing of real-life experiences for connection. Ultimately, adolescents' trust in and connection with individuals and schools involved in PSSP interventions was integral for sharing of the self and actively engaging in interventions.

The fourth and fifth studies explore the perspectives of adolescents who engaged with the Mental Health of Youth Story (MYSTORY) photovoice study, using reflexive thematic analysis (TA). Study four explored adolescents' perspectives on school mental health and suicide prevention, with both the critical role of schools in adolescent mental health and the need to amplify youth voice evident. Study five demonstrates the MYSTORY study as a creative and youth-friendly study, which enabled reflection on and discussion of mental health,

from personal mental health to school mental health and suicide prevention experiences. Participation in the MYSTORY study enhanced ability to express oneself and was associated with feelings of pride, accomplishment, and connection, which were central to perceptions of youth voice in the MYSTORY study.

These findings advance understanding of how PSSP effectiveness and implementation requirements are impacted by context, with the importance of youth voice and school contexts to both PSSP interventions and wider school mental health and suicide prevention evident. The overarching contribution of this programme of research is the re-thinking of the field of PSSP from a standpoint which focuses on effectiveness, implementation requirements, and youth voice.

LIST OF WORKS

This programme of research consists of the following peer-reviewed journal articles, which are published or under review in Q1 journals. Minor editorial modifications have been made to the published articles for the inclusion of the articles as chapters in this thesis.

Walsh, E. H., Herring, M. P., & McMahon, J. (2023). Experiences of young people in Ireland with the mental health of youth story (MYSTORY) photovoice study. *Under review with Journal of Creativity in Mental Health*

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Walsh, E. H., Herring, M. P., & McMahon, J. (2023). Exploring adolescents' perspectives on and experiences with post-primary school-based suicide prevention: a meta-ethnography protocol. *Systematic Reviews, 12*(1), 4. https://doi.org/10.1186/s13643-022-02166-1

Walsh, E. H., Herring, M. P., & McMahon, J. (2022). A systematic review of school-based suicide prevention interventions for adolescents, and intervention and contextual factors in prevention. *Prevention Science, 24,* 365–381. https://doi.org/10.1007/s11121-022-01449-2

Walsh, E. H., McMahon, J., & Herring, M. P. (2022). Research review: The effect of school-based suicide prevention on suicidal ideation and suicide attempts and the role of intervention and contextual factors among adolescents: a meta-analysis and meta-regression. *Journal of Child Psychology and Psychiatry, 63*(8), 836-845. https://doi.org/10.1111/jcpp.13598

The following non-peer reviewed systematic review protocols related to this programme of research were registered:

Walsh, E. H., Herring, M. P., & McMahon, J. (2022). A meta-ethnography of adolescents' perspectives on and experiences with post-primary school-based suicide prevention. *Prospero*. CRD4202231942

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A comment on Walsh, McMahon & Herring, M. P. (2022) was published by Dr Rebecca Kamody and Professor Michael Bloch, Associate Editor of the Journal of Child Psychology and Psychiatry.

Kamody, R. C., & Bloch, M. H. (2022). Editorial: Schools on the frontline of suicide prevention. *Journal of Child Psychology and Psychiatry, 63*(8), 833-835. https://doi.org/doi.org/10.1111/jcpp.13663

CONFERENCE/SEMINAR PRESENTATIONS

Walsh, E.H., Herring, M.P. & McMahon, J. (2022, November 23). *A systematic review of school-based suicide prevention interventions for adolescents, and intervention and contextual factors in prevention* [Poster presentation]. Health Implementation Science and Technology (HIST) Research Cluster at University of Limerick (UL) Implementation Science Conference: Applications and Complexities, Limerick, Ireland.

Walsh, E.H., Herring, M.P. & McMahon, J. (2022, October 1). *Post-primary school-based suicide prevention and the role of intervention and contextual factors: A meta-analysis and*

meta-regression [Oral presentation]. Sixth International Association of Youth Mental Health Conference, Copenhagen, Denmark.

Walsh, E.H., O'Dwyer J., Real, J., Herring, M.P. & McMahon, J. (2022, September 30). *Exploring multiple perspectives on youth involvement in the mental health of youth story (MYSTORY) photovoice study* [Poster presentation with youth collaborator]. Sixth International Association of Youth Mental Health Conference, Copenhagen, Denmark.

Walsh, E.H., Herring, M.P. & McMahon, J. (2021, September 21-24). *Perspectives of youth in Ireland on school-based mental health and suicide prevention - Mental Health of Youth Story (MYSTORY) photovoice study* [Virtual poster presentation]. The International Association of Suicide Prevention 31st World Congress, Queensland, Australia.

Walsh, E.H., Herring, M.P. & McMahon, J. (2020, October 9). *A systematic review of adolescent school-based suicide prevention and contextual factors in prevention* [Virtual oral presentation]. National Suicide Research Foundation (NSRF) Virtual Seminar on Suicide, Self-Harm and Mental Health, Cork, Ireland.

Walsh, E.H., Herring, M.P. & McMahon, J. (2020, October 5). *A systematic review of adolescent school-based suicide prevention and implications for practice and policy* [Virtual oral presentation]. YOULEAD 1st Annual Youth Mental Health Research Meeting, University of Galway, Galway, Ireland.

INVITED SPEAKER PRESENTATIONS

Walsh, E.H., Herring, M.P. & McMahon, J. (2023, May 31). *Understanding the evidence for post-primary school-based suicide prevention using meta-synthesis methods.* [Virtual oral

presentation]. School of Education Research Committee Lunchtime Learning Seminar, UL, Limerick, Ireland.

Walsh, E.H., Herring, M.P. & McMahon, J. (2023). *Mental Health of Youth Story (MYSTORY) study* [Oral presentation]. International, Intersectoral and Interdisciplinary Collaborative Research Education and Health Sciences Research Day, UL, Limerick, Ireland.

Walsh, E.H., Herring, M.P. & McMahon, J. (2022). *Experiences of co-designing and co-facilitating the 'what young people want from school mental health and suicide prevention' Mental Health of Youth Story (MYSTORY) study video* [Virtual oral presentation]. Public Patient Involvement (PPI) Ignite Network National PPI Festival, University of Galway, Galway, Ireland.

Walsh, E.H., Herring, M.P. & McMahon, J. (2021). *Understanding effectiveness and implementation of post-primary school-based suicide prevention -'5 slides in 5' minutes inaugural PhD/postdoctoral researcher speaker* [Virtual oral presentation]. Health Research Institute Conversations Webinar, UL, Limerick, Ireland.

Walsh, E.H., O'Dywer A., Herring, M.P. & McMahon, J. (2021). *Systematic review and meta-analysis: a step-by-step guide* [Virtual oral presentation]. Study of Anxiety, Stress and Health Laboratory (SASHlab) and School, Child, Youth (SCY) Research and Wellbeing Lab collaborative session, UL, Limerick, Ireland.

Walsh, E.H., Herring, M.P. & McMahon, J. (2020) *Post-primary school-based suicide prevention: implementation matters* [Virtual oral presentation]. National Institute of Studies in Education (NISE) Lunchtime Seminar Series, UL, Limerick, Ireland.

AWARDS/RECOGNITIONS

The following competitive awards and recognitions were granted during the period of doctoral study:

2023: Best Early Career Researcher Award, awarded by the NSRF at the World Mental Health Day 2023 seminar

2023: Longlist nominee for the Association of Child and Adolescent Mental Health (ACAMH) Research Trainee of the Year Award.

2022: Éabhard O'Callaghan Award for Excellence in Youth Mental Health Research, awarded by the ACAMH Youth Mental Health Special Interest Group at the *Celebrating World Mental Health Day 2022 Suicide, Self-harm & Mental Health Seminar* hosted by the NSRF.

2022: Invited as the early career representative panel member at the Celebrating *World Mental Health Day 2022 Suicide, Self-harm & Mental Health Seminar* panel discussion titled: *Future directions for research in suicide, self-harm and mental health in Ireland and Northern Ireland*.

2022: Walsh, McMahon & Herring (2022) (chapter 2 in the thesis) featured in the Journal of Child Psychology and Psychiatry 2022 Top 10 Downloaded Papers list.

2021: PPI Ignite, UL, Network Bursary Scheme 2021 awardee (€1000) for funding the co-design and co-production of the "What young people want from school mental health and

suicide prevention: a MYSTORY (Mental Health of Youth Story) co-created video" (https://limerickyouthservice.com/my-story/)

2020: Best Youth Mental Health Rapid presentation award (joint 1st place) at the *NSRF Virtual Seminar on Suicide, Self-Harm and Mental Health*.

2019: Faculty of Education and Health Sciences, UL, €1000 Support Funding awardee.

BLOGPOST

Walsh, E.H. & O'Dywer A. (2021) Systematic review and meta-analysis: A step-by-step guide blog. https://www.sashlab.com/single-post/systematic-review-and-meta-analysis-a-step-by-step-guide.

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LIST OF ABBREVIATIONS

CASP: Critical Appraisal Skills Programme

CDC: Centers for Disease Control and Prevention

COREQ: Consolidated Criteria for Qualitative Research

CRT: Cluster randomised trial

DES: Department of Education and Skills

EW: Eibhlin Walsh

JMM: Jennifer McMahon

MH: Matthew Herring

MYSTORY: Mental Health of Youth Story

NEPS: National Educational Psychological Service

NSRF: National Suicide Research Foundation

NNT: Number needed to treat

OR: Odds ratios

RCT: Randomised controlled trial

PEER: Patient expected event rate

PEO: Population, Exposure and Outcome

PICOs: Population, Intervention, Comparison and Outcomes and study design

PRISMA-P: Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols

PSSP: Post-primary school-based suicide prevention

QPR: Question, Persuade and Refer

SA: Suicide attempt

SEYLE: The Saving and Empowering Young Lives in Europe

SI: Suicidal ideation

SOS: Signs of Suicide

SDG: Sustainable Development Goals

STB: Suicidal thoughts and behaviours

TA: Thematic analysis

UK: United Kingdom

UN: United Nations

UNCRC: United Nations Convention on the Rights of the Child

US: United States

YAM: Youth Aware of Mental Health

YPAG: Young person advisory group

DECLARATION

I hereby declare that this thesis is my own work and was completed under the supervision of Dr Jennifer McMahon (Department of Psychology) and Dr Matthew P. Herring (Department of Physical Education and Sport Sciences). Where necessary, due reference and acknowledgement has been made to the work of others. No part of this thesis has been submitted for any academic award at this, or any other, third level institution.

Signed:

Eibhlin H. Walsh (student number: 12126497)

Statement of Contribution – Candidate

The five studies (and one published review protocol) in this programme of research, represented as distinct chapters, are written for publication. While I am fully responsible for the work presented, the first person in the plural (i.e., "we") is used throughout the studies to reflect the collaborative efforts that guided this programme of research. As each chapter is

written as a stand-alone study for publication, some relevant information may be repeated throughout. All five studies were designed by the candidate under the supervision of Dr Jennifer McMahon and Dr Matthew P. Herring. Review of the literature, participant recruitment, data collection, data-analysis, study, and thesis write-up was conducted by the candidate with supervisory support and guidance from Dr Jennifer McMahon and Dr Matthew P. Herring. For the meta-analysis (chapter 2), narrative systematic review (chapter 3) and the meta-ethnography (chapter 5), data extraction and study quality assessment were conducted with the assistance of undergraduate students who were partaking in research assistantships and Dr Laura Hemming, Postdoctoral Research Fellow at La Trobe University.

Statement of Contribution – Supervisors

As outlined in the candidate's statement above, the substantial contribution to the co-authored studies presented in this programme of research was made by the candidate. This includes the review of the literature, study design, statistical and qualitative analysis, and interpretation of the data and write-up for publication. The supervisors contributed to the studies by advising on analysis and interpretational issues, relevant literature and writing style. The framing of this thesis and the arrangement of the studies is the product of discussion between the candidate and her supervisors.

Signed: Jennifer McMahon__  _____

Signed: Matthew P. Herring

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I am acutely aware of the privilege that has been afforded to me to spend these many years in education. During my nine years in UL, the academic and support staff in the Department of Psychology and the wider Education and Health Sciences faculty have supported me and inspired me in so many ways - thank you All. Thank you to the National Institute of Studies in Education for funding this programme of research.

Undoubtedly, I would not be the researcher that I am today without my PhD supervisors Jenny and Matt, who inspired me to immerse myself in this research and lead this work. This programme of research would not have been possible without you both.

Matt - it was a privilege to have your guidance and support undertaking a very new, challenging and almost scary method at the beginning of my PhD - meta-analysis! Your expertise inspired my fascination with evidence synthesis methods, which forms an integral part of this programme of research. Thank you also for the emails over the years reminding me that my hard work would pay off, especially when I needed them the most.

Jenny - you have had a profound impact on me as a researcher and as a person. It has been a privilege to learn from your expertise in and passion for youth and school mental health. Thank you from the bottom of my heart for all the encouragement at every step of the way and affording me many opportunities to learn, collaborate and thrive; all of which was integral for me in striving to reach my full potential. Working under your supervision and alongside you in many fascinating studies as part of SCYLAB over the years has instilled in me the importance of remembering the people and communities at the centre of research.

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DEDICATION

Mam – it is without a doubt that your encouragement for learning, your passion for helping others and your gratitude in life has inspired me to become the person I am today. I dedicate this thesis to you.

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GLOSSARY OF KEY TERMS/DEFINITIONS

Adolescents: Adolescents are defined as young people aged 11-19 years, which aligns with existing definitions of adolescence (World Health Organization, 2021a), as well as the typical age range of students attending post-primary school (Citizens Information, 2021, October 8; National Center for Education Statistics, 2022).

Implementation requirements: Mapping onto definitions of intervention outcomes proposed by Proctor et al. (2011), which have been most commonly examined in the field of implementation science thus far (Proctor et al., 2023), intervention requirements relevant to this programme of research includes acceptability, appropriateness, feasibility, and fidelity.

Post-primary school-based suicide prevention (PSSP): PSSP can include interventions conducted in schools and delivered at individual-, classroom- or school-levels, as well as more informal crisis support and procedures facilitated by school personnel (Miller, 2021).

PSSP interventions: We define PSSP as interventions located in post-primary school-based settings, which target STBs as both primary intervention outcomes and with other health and well-being outcomes, consistent with recommendations for: targeting problems associated with suicide to reduce suicide (Large et al., 2017); prevention embedded in general mental health strategies (Miller, Eckert, & Mazza, 2009), and, upstream PSSP interventions which reduce STBs indirectly by addressing risk and protective processes (Wyman, 2014).Aspects of PSSP can be categorised in accordance with the classification levels of the Universal, Selective and Indicated prevention model: (1) universal strategies targeting adolescents at the wider class/school level, such as awareness programmes, (2) selective strategies identifying or addressing risk among adolescents who are at-risk for STBs, such as screening for STBs, and (3) indicated strategies targeting adolescents identified as high risk of experiencing STBs, such as referral to therapeutic interventions (Goldsmith, 2002; Miller et al., 2009; Wasserman et al., 2021).

Suicidal thoughts and behaviours (STBs): STBs are commonly targeted in preventive research and includes suicide attempts (SA) which are non-fatal and potentially injurious acts of intention to end one's life (Goldsmith, 2002; Hughes et al., 2023) and suicidal ideation (SI),

which are thoughts, wishes, and preoccupations about killing oneself (Goldsmith, 2002; Harmer et al., 2022).

Youth voice: Youth voice represents young people's perspectives, involvement, and initiative in organisations, schools and government (Garvey, McIntyre-Craig, & Myers, 2000, as cited in Havlicek et al. (2016)). Youth voice has also been defined as the meaningful inclusion of young people in the design and implementation of services concerning young people (Fredericks et al., 2001). In research, youth voice represents young people's active participation in the research process (James, 2007), ranging from the use of participatory research methods, to young people's input on scope, design, analysis, and dissemination in research (Woodgate et al., 2020).

CHAPTER ONE: GENERAL INTRODUCTION

CHAPTER 1: GENERAL INTRODUCTION

Suicide is a worldwide public health issue which has devastating and far-reaching impacts on families, communities, and societies. Suicide prevention is a global priority and a Sustainable Development Goal (SDG) under the *Transforming our World: the 2030 Agenda for Sustainable Development*, which endeavours to reduce suicide by one-third by 2030 (United Nations [UN], 2015; World Health Organization [WHO], 2022). Death by suicide (suicide henceforth) is the intentional act of ending one's own life (O'Connor & Nock, 2014). Suicidal thoughts and behaviours (STBs) are commonly targeted in preventive research and includes suicide attempts (SA), which are non-fatal and potentially injurious acts of intention to end one's life (Goldsmith, 2002; Hughes et al., 2023) and suicidal ideation (SI), which are thoughts, wishes, and preoccupations about killing oneself (Goldsmith, 2002; Harmer et al., 2022).

Suicide among adolescents is a particularly pressing societal concern; globally suicide is the fourth leading cause of death among 15-19-year-olds (WHO, 2021c), and since the beginning of the millennium there has been increases in adolescent suicide in Ireland, United Kingdom (UK) and the United States (US) (Centers for Disease Control and Prevention [CDC],

2020; Central Statistics Office, 2021; Office for National Statistics, 2020). SI and SA are long-standing pertinent predictors of suicide among adolescents (Lewinsohn et al., 1994; Nock et al., 2013; Shaffer et al., 1996) and global 12-month prevalence rates of adolescent SI and SA were 16.5% and 16.4% across 83 countries (Tang et al., 2020). Adolescent suicide is a tragedy which amasses immeasurable human and financial cost; the total economic loss of suicide among 15–24-years-olds in Australia was estimated at $511 million per annum using 2014 national suicide rates as the reference year (Kinchin & Doran, 2018). Evidence of increased suicide rates during the COVID-19 pandemic is unclear (Pirkis et al., 2022), but existing concerns for adolescent mental health and suicide are amplified due to the unprecedented psychosocial and economic impacts associated with the pandemic, which could have profound impacts on the normative development and mental health among adolescents (Cannon et al., 2022; Creswell, 2023; Hossain et al., 2022; John et al., 2021).

Adolescence is a distinct developmental stage representing young people aged 11-19 years (WHO, 2021a), which comprises of unique environmental and biological resources and vulnerabilities (Blum et al., 2012). Adolescence is marked by increased mental health difficulties and risk-taking behaviours (Patton et al., 2016; Spear, 2000; van Vuuren et al., 2020) and the onset of SI among adolescents is remarkably similar across low- and middle-income countries (Nock et al., 2008). One etiological approach to understanding the emergence of adolescent suicide and STBs is that these behaviours result from a complex interplay of socio-cultural, developmental, clinical, biological, psychological and family-environmental factors (Bridge et al., 2006; O'Connor & Nock, 2014). Bronfenbrenner's Ecological Systems Theory outlines that young people's social and emotional development is dependent on the interplay of contextual aspects of the environment and situates the individual within nested contextual systems, including the ontogenic system, microsystem, mesosystem, exosystem, macrosystem and chronosystem (Belsky, 1980; Bronfenbrenner, 1979; Bronfenbrenner &

Evans, 2000). Suicidology researchers have employed theoretical frameworks guided by Bronfenbrenner's and Belsky's work to conceptualise adolescent suicide; the ontogenic system represents factors which lead to an increased risk for adolescent STBs, including clinical factors such as depression and anxiety (Orri et al., 2022; Orri et al., 2020) and modifiable factors such as poor physical activity (Vancampfort et al., 2018) and poor sleep (Kearns et al., 2021; Pfledderer et al., 2019). Ontogenic development is nested within the microsystem (i.e., influences of family and friends), exosystem (i.e., school and residential setting) and macrosystem, (i.e., influence of cultural beliefs and values) respectively, and it is posited that these factors additively and interactively influence adolescents STBs (Ayyash-Abdo, 2002). Given that the emergence of suicide and STBs is a complex phenomenon involving the interplay of precipitating factors, suicide prevention can be particularly challenging (Reifels et al., 2022).

Targeting suicide among clinical populations who have an extremely high relative risk is integral for a healthy and fruitful society, but alone, will not have a large impact on reducing the incidence of suicide in the wider population (Goldsmith, 2002). Adolescents are developmentally more susceptible to peer influence in comparison to their non-adolescent counterparts (Ciranka & van den Bos, 2019; Prinstein & Dodge, 2008) and therefore, behaviours influencing mortality (i.e., smoking and obesity) are more commonly transmitted among adolescents (Christakis & Fowler, 2012). This phenomenon extends to suicide, with suicide clusters occurring more commonly among young people aged <25 years (Hawton et al., 2020). A longitudinal study tracking Canadian children to emerging adulthood demonstrated that exposure to a schoolmate's or acquaintance's suicide was a key predictor of SA persisting into adulthood (Geoffroy et al., 2021), which indicates that exposure to suicide among adolescent peers can have far-reaching impacts on STBs in adulthood. However, the dividend of preventing adolescent STBs also extends beyond the period of adolescence; an

economic modelling study estimated high returns of investment and lower costs per disability adjusted life year averted attributed to both post-primary, school-based suicide prevention (PSSP) and school-based interventions for anxiety and depression among adolescents. These findings suggest that investment of effective and sustainable PSSP during adolescence could incur lifelong health and economic benefits (Stelmach et al., 2022).

SCHOOL-BASED SUICIDE PREVENTION

The WHO recommend evidence-based and sustainable suicide prevention interventions which target STBs by addressing a myriad of risk and protective factors including systemic, societal, community, social connectedness and individual risk factors as part of public health preventive efforts (WHO, 2014, 2018, 2022). Moreover, the LIVE LIFE approach to suicide prevention recommends locating suicide prevention in places which serve adolescents over extended periods of time, such as schools (WHO, 2021b). Post-primary schools are a complementary setting for targeting STBs among adolescents; schools serve large numbers of adolescents and have potential for mandate enactment needed to translate PSSP-related policy and evidence into practice (Craig et al., 2018; White et al., 2012). The potential of school settings to serve adolescents' mental health needs is particularly important in the context of the increasing demand for accessing adolescent mental health services in England and in Ireland (Connor, 2022; Soneson et al., 2022). PSSP can include interventions conducted in schools and delivered at individual-, classroom- or school-levels, as well as more informal crisis support and procedures facilitated by school personnel (Miller, 2021). The evaluation of PSSP interventions emerged in the 1980's (White & Morris, 2010), traditionally, PSSP has been categorised in accordance with the classification levels of the Universal, Selective and Indicated prevention model: (1) universal strategies targeting adolescents at the wider class/school level, such as awareness programmes, (2) selective strategies identifying or addressing risk among adolescents who are at-risk for STBs, such as screening for STBs, and

(3) indicated strategies targeting adolescents identified as high risk of experiencing STBs, such as referral to therapeutic interventions (Goldsmith, 2002; Miller et al., 2009; Wasserman et al., 2021).

In recent times, there is an emerging focus on PSSP interventions incorporating upstream approaches to targeting suicide, including indirectly addressing risk and protective processes (Wyman, 2014) and prevention embedded in general mental health strategies (Miller, Eckert, & Mazza, 2009). Given that large numbers of adolescents who each have a range of mental health needs typically engage with PSSP interventions at one given time in classroom settings, PSSP strategies which target STBs and related risk and protective factors could be useful for both targeting suicide among adolescents and improving adolescent mental health overall. This programme of research presents a definition of PSSP interventions as interventions located in post-primary, school-based settings, which target STBs as both primary intervention outcomes and with other health and well-being outcomes. This expanded definition of PSSP interventions is not well represented in the PSSP intervention evidence-base, with seminal reviews of PSSP effectiveness excluding general mental health interventions (Surgenor et al., 2016) and interventions which did not primarily target STBs (Robinson, Bailey, et al., 2018), and limiting inclusion criteria to interventions directly targeting STBs (Miller et al., 2009). It is important to expand the definition of PSSP interventions, given that the WHO LIVE LIFE approach to suicide prevention includes fostering social and emotional life skills among adolescents as a priority area to achieve the SDG target of reducing the global suicide rate by one third by 2030 (WHO, 2021b).

Reviews identify PSSP interventions as one of the most common and promising preventive strategies for targeting STBs among adolescents (i.e., Robinson et al., 2018; Wasserman et al., 2021; Zalsman et al., 2016). However, there are long-standing gaps between the evidence and practice of PSSP interventions (Kalafat & Ryerson, 1999; Singer et al., 2018;

Vargas et al., 2023). Evidence-practice gaps represent a lack of application of evidence-based interventions in real life settings, relative to the extant scientific knowledge (Westerlund et al., 2019). With respect to school-based health interventions more generally, it has proven challenging to achieve sustained, system-wide implementation of effective interventions in schools located across a wide variety of jurisdictions (Chiodo & Kolpin, 2018; Keshavarz et al., 2010). Despite schools being identified as a key setting for providing mental health care to young people (Duong et al., 2020), nationally representative evidence limited to the US context demonstrates that PSSP interventions are not routinely employed in schools; 4.7% of principals reported employing an evidence-based PSSP intervention in their respective schools (Smith-Millman & Flaspohler, 2019) and 30% of schools employed PSSP interventions (Miller et al., 2022). The PSSP intervention evidence-practice gap reveals the inactivity of global calls and policy supporting PSSP interventions. Concerningly, the issue of evidence-practice gaps impacts the wider health field and it has been estimated that 85% of health research investment could be wasted (Chalmers & Glasziou, 2009).

In general, intervention scale-up is challenging given that interventions which have worked in one time and place too often do not work in the same manner across multiple settings (Damschroder et al., 2009; Fletcher et al., 2016). The reasons that interventions fail in particular settings vary; sometimes interventions are ineffective in a different setting to which it was initially evaluated in (i.e., intervention failure), and other times interventions are deployed incorrectly (i.e., implementation failure) (Proctor et al., 2011). Implementation science endeavours to provide an arsenal of knowledge and tools to address evidence-practice gaps (Westerlund et al., 2019). Implementation science is an emerging field (Proctor et al., 2011; Wolfenden et al., 2021), which is particularly rudimentary in the field of suicide prevention (Reifels et al., 2022). Drawing on implementation science can enhance understanding of how PSSP interventions are effective in particular contexts and how to promote PSSP intervention

uptake in practice (Breet et al., 2021). Mapping onto definitions of intervention outcomes proposed by Proctor et al. (2011), which have been most commonly examined in the field of implementation science thus far (Proctor et al., 2023), intervention requirements relevant to this programme of research includes acceptability, appropriateness, feasibility, and fidelity.

The complexity and multi-faceted nature of school settings further complicates implementation challenges (Joyce & Cartwright, 2020). In both research and practice contexts, adolescents engage with PSSP interventions embedded in highly contextualised schooling ecosystems; classrooms comprising of teachers-student interactions are nested in schools containing unique climates and practices, which are further situated in wider communities and jurisdictions diverse in terms of culture, resources and mandate (Chiodo & Kolpin, 2018; Domitrovich et al., 2008; Hoagwood & Johnson, 2003). Subsequently, decision-making relating to PSSP interventions is rarely informed only by the evidence-base; contextual factors such as resources, school needs, policy and funding allocations are key drivers on the ground which impact the uptake of PSSP interventions (Reifels et al., 2022). Subsequently, PSSP intervention effectiveness and implementation requirements can vary considerably across different research and practice contexts.

Realist perspectives provide a useful lens to understand how interventions work, which is important for both intervention evaluation and implementation (Rycroft-Malone et al., 2012). Realist perspectives in intervention research consider context as a multi-faceted concept reflecting *'what works, for whom, in what circumstances, in what respects, and how?'*(Pawson & Tilley, 1997). From a realist standpoint, interventions are understood to provide resources which actors and recipients engage with, which further elicits mechanisms underlying contextually-dependent outcomes (Bonell et al., 2021). Contextual factors in intervention research are any characteristics inextricably linked to the conception, development, implementation, and evaluation of an intervention (Damschroder et al., 2009; Domitrovich et

al., 2008). Ultimately, understanding contextual factors underlying intervention outcomes informs on the aspects of interventions which work or do not work, which is necessary for understanding both intervention effectiveness and implementation requirements (Bonell et al., 2021; Pawson & Tilley, 1997). Mapping out contextual factors which can influence intervention outcomes is needed to enhance knowledge on the transferability of interventions to multiple settings (Bonell et al., 2021).

Despite the clear importance of understanding context with respect to PSSP interventions, existing reviews highlight the persisting knowledge gaps in understanding how contextual factors influence PSSP intervention outcomes (Hofstra et al., 2020; Miller et al., 2009; Robinson, Bailey, et al., 2018), an issue which is similarly observed in the broader school-based mental health field (Clarke et al., 2021; Lendrum & Humphrey, 2012; Walker, 2004). One theoretically- and empirically-informed framework for delineating on intervention and contextual factors relevant to school-based preventive interventions is a multi-level conceptual framework (Domitrovich et al., 2008), which organises key contextual factors into macro-, school- and individual-levels; macro-level factors refer to broader community- and government-related factors which can influence schools' capacity for intervention uptake, such as policy; school-level factors pertain to the school environment which can influence how interventions work; and individual-level factors include factors related to individuals who are involved in interventions, which can influence how individuals engage with interventions.

ADOLESCENTS AND SCHOOL-BASED SUICIDE PREVENTION

Contextual factors relating to adolescents' voice and engagement in interventions are arguably among the most important with respect to PSSP intervention effectiveness and implementation. In a broad sense, youth voice represents young people's perspectives, involvement, and initiative in services and organisations concerning young people, schools and government (Garvey, McIntyre-Craig, & Myers, 2000, as cited in Havlicek

et al. (2016)). In research, youth voice represents young people's active participation in the research process (James, 2007), ranging from the use of participatory research methods, to young people's input on scope, design, analysis, and dissemination in research (Woodgate et al., 2020). The Lancet Commission on Adolescent Health and Wellbeing advocates for youth voice in interventions concerning young people's well-being (Patton et al., 2016) and calls for decision-makers to centre mental health and wellbeing efforts on the voices of young people continues to dominate the youth mental health field (The Lancet, 2022). Similarly, the WHO LIVE LIFE approach to suicide prevention recommends for young people to be involved in decision-making and design processes (WHO, 2021b), yet these aspirations are not well represented in PSSP and wider mental health research.

Intervention engagement represents how individuals are involved in interventions in research and practice, which can range from participation as end-users to planning, design, analysis, translation and dissemination (Campus Engage, 2017; Dunne & Owen, 2013). Adolescents can engage with suicide prevention interventions as research participants, intervention facilitators (i.e., Wyman et al. 2010), intervention advisors (LaFromboise & Howard-Pitney, 1995; W. L. Robinson et al., 2016) and co-researchers (Thorn et al., 2020). Adolescents are primed to engage having developed the cognitive capacities needed to engage in wider social and community life and concurrently, adolescents wish to be meaningfully involved in contributing to matters which concern their health and wellbeing. However, there is little understanding of how adolescents engage in PSSP interventions despite the accrual of PSSP intervention research over a period of four decades. Understanding young people's views is important beyond practice and research; it is a legal obligation Lundy (2007). Article 12 of the UN Convention on the Rights of the Child (UNCRC) mandates that young people have a right to express their views on matters which concern them (United Nations [UN], 1990).

Evidently, adolescents should be a priority focus in PSSP research, yet there remains a fragmented and incoherent understanding of adolescents' positioning in and experiences with PSSP interventions. A systematic review of school-based mental health interventions synthesising 31 studies showed that intervention fidelity components linked to adolescents' own experiences of engaging with interventions (i.e., intervention receptiveness) were stronger predictors of postintervention mental health outcomes, in comparison to intervention fidelity components linked to the intervention itself (i.e., intervention quality). Furthermore, adolescents' commitment to school-based mental health interventions emerged as key factor in achieving improved postintervention mental health outcomes, irrespective of intervention model (Rojas-Andrade & Bahamondes, 2019). These findings suggest that it is adolescents' perceptions of school-based mental health interventions which are critical to intervention success in achieving intended impacts on mental health outcomes, in comparison to typical key indicators of intervention success, such as intervention quality and model.

Despite the clear need to prioritise understanding of adolescents' viewpoints in PSSP research and practice, arguably adolescents' experiences can be often overlooked and underestimated in school mental health more broadly. For instance, the school-based MYRIAD trial stands as one of the most expensive studies in meditation science (£6.4 million) sampling over 8000 adolescents attending 84 schools. The MYRIAD trial did not demonstrate the predicted positive effects on adolescent mental health (Farias, 2022; Montero-Marin et al., 2022; Montero-Marin et al., 2023), which incurs a remarkable loss of funds and opportunity to support adolescent mental health (Farias, 2022). Secondary analyses of the MYRIAD trial data demonstrates: (1) strikingly low participant engagement despite good fidelity, reach and dosage, and (2) lack of benefit of engaging with the intervention for participants with mental health needs (Montero-Marin et al., 2022; Montero-Marin et al., 2023). Half of the participants expressed reservations about the potential helpfulness of the intervention and more

concerningly, some participants (i.e., 10% of those with an elaborated response, 4% of those who answered) reported psychological distress postintervention (Montero-Marin et al., 2023).

The complexities related to PSSP research have likely hindered focus on adolescents' experiences with and voice in PSSP research. Firstly, there is a scarcity of resources to support young people's meaningful involvement in mental health research, including funding, expertise and time (McCabe et al., 2023; Simmons, 2021), an issue apparent in the wider youth health field (Warraitch, 2022). Secondly, there are concerns about potential iatrogenic effects relating to the sensitive and complex implications of suicide research (Webb et al., 2023). Perceived risks of harm have remained a steadfast barrier for progressing research on suicide prevention (DeCou & Schumann, 2018; The Lancet Psychiatry, 2022), particularly with adolescents (Ballard et al., 2013; Thorn et al., 2020). Furthermore, research can be somewhat unreceptive to focusing on suicide in the school setting; suicide is often rendered invisible in schools despite the need for its' prioritisation in the curriculum (Evans & Hurrell, 2016). Recently, there has been considerable progress made with flagship suicide and social media research involving young people conducted by researchers in ORYGEN (La Sala et al., 2023; Webb et al., 2023), with La Sala and colleagues showing that exposure to suicide prevention information was not harmful to young people who have recently been exposed to STBs. However, challenges remain to involving adolescents in suicide-related research, with few community-university partnerships involving youth collaborators identified in a scoping study of suicide prevention partnerships (Bailey et al., 2020).

Thirdly, aspects of school settings themselves can hinder focus on adolescents' experiences and views with respect to PSSP and school mental health more broadly. Schools are a setting whereby power differentials are amplified; adolescents are expected to engage in academics, teachers assume instructive and authoritative roles and adolescents typically have the least amount of say in how aspects of classrooms and schools' function, all of which is

further encased in hidden and informal power hierarchies in wider society (Gallagher, 2008; Kohfeldt et al., 2011). In school settings, student voice represents consultation with students' on issues concerning them in relation to their education, pedagogy and general schooling experiences (Fleming, 2015; Fleming, 2013), with student voice traditionally focused in terms of rights, empowerment and the improvement of student outcomes and school reform (Mitra, 2004). Given the power differentials in school settings, it is unsurprising that student voice can lack in school settings; for instance, Ireland is a cultural context which does not have a notable history of student voice (Skerritt, Brown, et al., 2021). Drawing on critical perspectives can provide both explanation as to why these gaps of knowledge exist and solutions to address these gaps. Critical approaches purport that power and inequity permeate into all aspects of collaboration and autonomy, in both research and wider society (Leavy, 2017; Scotland, 2012). Ultimately, the power differentials which exist between adolescents and adults are considerable and unavoidable (Facca et al., 2020). Power differentials can manifest as *adultism,* which has an underlying assumption that adults are more knowledgeable about issues relevant to adolescents; in research adultism can result in the passive positioning of adolescents (Teixeira et al., 2021). Passive positioning of adolescents is observed in broader health-related research, a recent review demonstrated that fewer than 29 (1%) of identified health studies included youth input (Sellars et al., 2020). In wider health fields calls are increasing for greater youth involvement (Warraitch, 2022).

Finally, schools are situated in cultural contexts which have unique cultural and socio-political factors pertaining to adolescent suicide and mental health (White, 2012). For example in Ireland suicide was only decriminalised three decades ago (Irish Statute Book, "Criminal Law (Suicide) Act, 1993 (IE)," 1993), which was then followed by an influx of policy and legislative developments concerning suicide prevention (Rochford et al., 2021). Based on the findings from a recent independent review of the provision of Child and Adolescent Mental

Health Services in Ireland, the State party has been urged to provide comprehensive school-based mental health promotion, screening for mental health issues and early intervention services at all levels (Mental Health Commision, 2023). Clearly, school mental health and suicide prevention considerations in Ireland will likely vary considerably in comparison to other cultural contexts. However, there is no known research exploring adolescents' perspectives on school mental health and suicide prevention in an Irish sample.

THE PRESENT PROGRAMME OF RESEARCH

AIMS OF THE PROGRAMME OF RESEARCH

As identified in the above literature, there are several gaps in the PSSP field which have resulted in a lack of understanding of: (1) the effectiveness of PSSP interventions which target STBs as both primary intervention outcomes and with other health and well-being outcomes, (2) important intervention and contextual factors relevant to PSSP interventions, and (3) adolescents' positioning in and experiences of engaging with PSSP interventions. Furthermore, there is a need for research situated within a critical approach which engages adolescents to understand their unique and contextualised experiences and voices related to school mental health and suicide prevention. The present programme of research aims to address these gaps.

A central aim of this programme of research is to enhance understanding of how PSSP interventions work and are effective, with a particular focus on enhancing understanding of youth voice and adolescents' experiences with PSSP interventions and suicide prevention and mental health in schools. The aims of this programme of research are to enhance understanding in the wider PSSP intervention field of: (1) PSSP intervention effectiveness and implementation requirements and (2) adolescents' experiences of engaging with PSSP interventions. More practically, this programme of research will employ a critically-informed, participatory-based study in an Irish context and will explore adolescents' perspectives on and

experiences with both: (1) school mental health and suicide prevention, and (2) engaging in the critically-informed participatory-based study.

Methodology

Realist approaches, critical perspectives and the advocacy/participatory paradigm provide a guiding theoretical framework for the doctoral programme of research. Realist perspectives guide the employment of the multi-level conceptual framework by Domitrovich et al. (2008) to identify important macro-, school-, and individual-level contextual factors with respect to PSSP intervention effectiveness and implementation requirements.

Evidence synthesis methods are useful for identifying, integrating and translating evidence in a particular field into actionable outcomes, such as policy enactment (Gottfredson et al., 2015). Given the identified research-practice gap in the field of PSSP, quantitative and qualitative evidence synthesis methods are employed to identify, collate, and synthesise PSSP intervention research in the field. Furthermore, qualitative research with adolescents orients discussion to phenomena and topics which matter to adolescents, which is important for enhancing our knowledge on adolescents' unique and nuanced perspectives and experiences (Wasserman et al., 2018). As such, interpretative methodologies which focus on exploring adolescents' experiences and perspectives while recognising data as context-bound (Braun & Clarke, 2019a; Campbell et al., 2011) will be employed in the doctoral programme of research, including reflexive thematic analysis (TA) and meta-ethnography, an interpretative qualitative synthesis approach.

The advocacy/participatory worldview prioritises inquiry 'with' young people, as opposed to 'on' young people, while striving for positive changes in young people's lives (Kemmis and Wilkinson [1998], as cited in Creswell and Poth [2016]). Disciplines such as child development, community development and educational sociology are drawn on to inform

children's participation in research and practice (Percy-Smith & Thomas, 2009). Participatory research actively involves young people in aspects of the research process, such as data collection and decision-making related to the research, while recognising young people as experts in issues affecting them (Montreuil et al., 2021; Water, 2018). Furthermore, participatory methods acknowledge power as a central research concept and offers ways to intervene with unavoidable notions of power. Arguably, participatory methods are more ethically acceptable research methods given their alignment with the UNCRC (Gallagher, 2008). Moreover, in line with recommendations by Facca et al. (2020) there is a need to theorise youth voice as relational and thus should be treated as a complex construction situated in multiple interpretations which are unavoidably influenced by power; critical approaches to qualitative and participatory-based research recognise youth voice in this way.

Mental Health of Youth Story Study. This programme of research involves a participatory-based qualitative study called the Mental Health of Youth Story Study (MYSTORY). The MYSTORY study is a university-community partnership study involving UL and a community, youth mental health organisation based in the mid-west of Ireland, conceptualised for the purpose of this programme of research. The MYSTORY study engages adolescents aged 16-19 years as participants engaging in a photovoice study involving photography, photo elicitation and a photovoice exhibition. The MYSTORY study engages young adults aged 19–24-year-olds as advisors to the research in the form of a young person advisory group (YPAG). The overarching aims of the MYSTORY study were to: (1) explore adolescents' perspectives on youth and school mental health and suicide prevention, and (2) communicate key insights on youth and school mental health and suicide prevention to schools, communities, and the wider public. More practically, the aims of the MYSTORY study align with key policies in Ireland focusing on the following areas; suicide prevention (National Office for Suicide Prevention, 2014), mental health (Department of Health, 2020), school

mental health (Department of Education and Skills [DES], 2019) and creativity for youth (Government of Ireland, 2023). Furthermore, in Ireland the policy and guidelines regarding the positioning of young people in society reflect the ethos of Article 12; the objectives of Ireland's Blueprint of the Policy Framework for Children and Young People 2023-2028 recognises that young people are experts in their own lives and urges decision-makers to prioritise the consideration to young people's views on matters impacting them, including in advisory and research contexts in spotlight areas such as mental health (Department of Children, 2022).

STRUCTURE OF THESIS

To address the aims of this research, this thesis is comprised of five interrelated studies, including three systematic reviews and two qualitative studies. The first review uses quantitative meta-analysis and meta-regression to estimate the population effect of PSSP interventions and the potential role of intervention and contextual factors on intervention effectiveness, respectively. The second review uses a narrative approach to summarise intervention effectiveness and highlight important intervention and contextual factors with respect to PSSP interventions. The third review employs an interpretative qualitative meta-ethnographic approach to explore and integrate adolescents' experiences of engaging with PSSP interventions. Finally, the two qualitative studies emerging from the MYSTORY study reports on the perspectives of a sample of adolescents in Ireland on: (1) school mental health and suicide prevention, and (2) engaging in the MYSTORY study. The studies are structured in the present thesis as follows;

Chapter 2: A quantitative meta-analysis estimating the population effect of PSSP interventions evaluated using cluster randomised trial (CRT) designs on STBs in adolescents. A meta-regression investigates how intervention and contextual factors vary PSSP intervention effectiveness.

Chapter 3: A narrative synthesis employing a vote-counting and textual approach estimating the effectiveness of PSSP interventions evaluated by randomised and non-randomised studies and highlighting important intervention and contextual factors with respect to PSSP interventions.

Chapter 4: A meta-ethnography protocol outlining a meta-ethnography review exploring adolescents' perspectives on and experiences of engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers.

Chapter 5: A meta-ethnography review exploring and integrating the perspectives and experiences of adolescents engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers.

Chapter 6 and chapter 7 each present experiential reflexive TA accounts. Chapter 6 explores adolescents' experiences with and perspectives on school mental health promotion and suicide prevention. Chapter 7 explores adolescents experiences with and perspectives on the MYSTORY study.

Finally, Chapter 8 concludes the thesis by providing an overview of the main findings and highlighting theoretical implications, practical implications, limitations, future research directions, recommendations and concluding remarks.

CHAPTER TWO

The effect of school-based suicide prevention on suicidal ideation and suicide attempts and the role of intervention and contextual factors among adolescents: A meta-analysis and meta-regression.

Manuscript One: **Walsh, E. H.,** McMahon, J., & Herring, M. P. (2022). Research Review: The effect of school-based suicide prevention on suicidal ideation and suicide attempts and the role of intervention and contextual factors among adolescents: a meta-analysis and meta-regression. *Journal of Child Psychology and Psychiatry, 63*(8), 836-845. https://doi.org/10.1111/jcpp.13598

Status: Published

Contribution: EW contributed to the study as follows:

Identified the research objectives

Led the study concept

Determined search terms, inclusion/exclusion criteria, search strategy and ran the searches

Completed data extraction

Completed statistical analysis

Drafting and critical revision of the manuscript

Submitted the manuscript for publication

Aim of Study:

To estimate the population effect for PSSP interventions targeting adolescent STBs as both primary intervention outcomes and with other health and well-being outcomes

on SI and SA

To explore how intervention effects vary based on intervention and contextual moderators.

Contribution to PhD and State of the Art: This study addresses an important gap in estimating the population effect of PSSP interventions on SA and SI in adolescents using crude and adjusted estimates and exploring how intervention and contextual factors potentially vary PSSP intervention effectiveness. Furthermore, this is the first meta-analysis in the PSSP intervention field to report NNTs, which indicate that one less adolescent would have a SA and experience SI for every 20–25 and 47–55 adolescents engaging in PSSP interventions, respectively. In practice, the NNTs suggest that implementing PSSP interventions in two classrooms could prevent at least one SA and one incidence of SI, which further supports the potential of PSSP interventions to be a clinically relevant strategy for targeting STBs among adolescents. Although moderator analyses were non-significant larger SA effect sizes support particular effectiveness for interventions of a duration of ≤1 week, involving multiple school personnel stakeholders and with a 12-month follow-up. Finally, this is the first known meta-analysis to widen the definition of PSSP interventions to include interventions located in post-primary school-based settings, which target STBs as both primary intervention outcomes and with other health and well-being outcomes.

Alignment with PhD programme of research:

Meta-analysis findings supports the clinical effectiveness of PSSP interventions on STBs among adolescents, which guides the focus of the subsequent systematic reviews in the programme of research to explore how, when and why PSSP interventions work or do not work

in the wider PSSP intervention field. Subsequently, contextual and intervention factors related to PSSP interventions are identified and organised into micro-, school- and macro-levels (in line with the three-level framework presented by Domitrovich and colleagues) In chapter 3. Adolescents' experiences with engaging with PSSP interventions are explored In chapter 5. Furthermore, the nascency of youth involvement in the field of PSSP identified in this study contributes to the overarching focus on the thesis on adolescents' experiences and involvement in PSSP interventions and school mental health and suicide prevention, which is reflected in chapters 3-7.

ABSTRACT

Globally, suicide is the fourth highest cause of adolescent mortality. The effects of PSSP on STBs have not been comprehensively synthesised. We aim to estimate the population effect for PSSP interventions on adolescent STBs and explore how intervention effects vary based on intervention and contextual moderators. Searches of PsycINFO, Medline, Education Source, ERIC, Web of Science, and the Cochrane Central Register of Controlled Trials identified cluster randomised trials examining the effectiveness of PSSP on adolescent STBs. The Cochrane Risk of Bias tool assessed bias. Crude and adjusted back-transformed odds ratios (ORs) were calculated. Multilevel random-effects models accounted for dependencies of effects. Univariate meta-regression explored variability of intervention and contextual moderators on pooled effects. There were 19 and 12 effects for suicidal ideation (SI) and suicide attempts (SA). Compared with controls, interventions were associated with 13% (OR = 0.87, 95%CI [0.78, 0.96]) and 34% (OR = 0.66, 95%CI [0.47, 0.91]) lower crude odds reductions for SI and SA, respectively. Effects were similar for adjusted SI and SA models. Within-study (0.20–9.10%) and between-study (0–51.20%) heterogeneity ranged for crude and adjusted SA models and SI heterogeneity was 0%. Moderator analyses did not vary SA effects (ps > .05). This meta-analysis contributes to the PSSP evidence-base by demonstrating that PSSP targeting STBs as both primary intervention outcomes and with other health and well-being outcomes reduced SI and SA among 33,155 adolescents attending 329 schools, compared to controls. The number needed to treat (NNT) estimates suggests the potential of reducing the

incidence of SA and SI in one adolescent by implementing PSSP in 1–2 classrooms, supporting PSSP as a clinically relevant suicide prevention strategy. Although moderator analyses were nonsignificant and contained a small number of trials, larger SA effect sizes support particular effectiveness for interventions of a duration of ≤1 week, involving multiple school personnel stakeholders and with a 12-month follow up.

INTRODUCTION

Globally, suicide is the fourth highest cause of mortality in 15-19-year-olds (WHO, 2021c). From 2008-2018 deaths by suicide in the US have continued to rise in 15-24- and 10-14-year-olds by 42% and 130%, respectively (CDC, 2020). STBs include SI (i.e., thoughts of killing oneself) and SA (i.e., acts of intention to end one's life not resulting in death) (Goldsmith, 2002). Twelve-month prevalence rates of adolescent SI and SA are estimated at 16.5% and 16.4%, respectively (Tang et al., 2020). Thus, identifying interventions effective in reducing adolescent STBs is needed.

Schools are logical contexts for adolescent suicide prevention, given their wide-ranging capacity for reaching adolescents and mandate enactment. PSSP strategies traditionally have been categorised as: universal (e.g., awareness programmes), selective (e.g., screening) and indicated (e.g., interventions for high-risk adolescents) (Goldsmith, 2002). We define PSSP as interventions located in post-primary school-based settings, which target STBs as both primary intervention outcomes and with other health and well-being outcomes, consistent with recommendations for: targeting problems associated with suicide to reduce suicide (Large et al., 2017); prevention embedded in general mental health strategies (Miller, Eckert, & Mazza, 2009), and, upstream PSSP interventions which reduce STBs indirectly by addressing risk and protective processes (Wyman, 2014). Previous PSSP reviews selected interventions designed to target youth STBs (Miller, Eckert, & Mazza, 2009), and excluded general mental health programs (Surgenor et al., 2016) and interventions which did not primarily to target STBs

(Robinson, Bailey, et al., 2018). A recent meta-analysis extended inclusion criteria to include interventions in primary and post-primary school settings which focus on risk factors of STBs to target STBs in children and adolescents, and preliminarily supported these interventions to have preventive potential (Gijzen et al., 2022). As such, expanding the focus of PSSP interventions is crucial to clarifying the effectiveness of PSSP for adolescent STBs.

Global policy directs the implementation of evidence-based PSSP (WHO, 2018). Rigorous systematic reviews and meta-analysis of randomised studies are pivotal in informing evidence-based insights (Mittman, 2004), with these studies amongst the highest level of evidence informing intervention (Burns et al., 2011) Meta-analytic evidence of PSSP effectiveness for reducing adolescent STBs is limited: syntheses demonstrating school-based suicide prevention effectiveness on SI of studies employing CRT designs included samples containing children (Pistone et al., 2019) and young adults (Pistone et al., 2019; Robinson, Bailey, et al., 2018). Recent meta-analyses including PSSP interventions demonstrate small composite effects of reduced STBs postintervention based on randomized (Gijzen et al., 2022) and non-randomised (Brann et al., 2021) studies. Rigorous composite effects of PSSP effectiveness on adolescent STBs based on CRTs are needed, consistent with recommendations that randomized and non-randomised studies are generally synthesised separately, particularly when additional sources of heterogeneity associated with CRT designs would likely interact with the intervention, which is the case when schools and classrooms are randomisation units in PSSP research (Borenstein et al., 2011; Donner & Klar, 2002).

Finally, reviews highlight the need to address gaps in understanding how intervention, school- and cultural-level contextual factors may influence PSSP intervention effectiveness (Hofstra et al., 2020; Miller et al., 2009; Robinson, Bailey, et al., 2018). Variation of PSSP effectiveness across settings supports the need for greater understanding of how contextual and

intervention factors varies PSSP effectiveness, to better understand how, where, and when PSSP strategies are most effective (Breet et al., 2021).

OBJECTIVES

This meta-analysis addressed the need for rigorous estimation of the population effect of PSSP interventions targeting STBs as both primary intervention outcomes and with other health and well-being outcomes on STBs in adolescents, evaluated using CRT designs. To address the gap in understanding how intervention and contextual factors vary PSSP effectiveness, we examined intervention type, duration, follow-up period, and school personnel stakeholder involvement in interventions as moderators, consistent with theoretically- and empirically-informed intervention and contextual factors (Domitrovich et al., 2008).

METHODS

This review was preregistered with PROSPERO (ID: CRD42020168883). This study adhered to the PRISMA 2020 statement guidelines (Page et al., 2021).

Table 2.1

Literature Searches Database Strings

Databases/registers	Search strings
Aggregate electronic database EBSCO host (containing Education Source, Eric, Medline and PsycInfo)	TI (adolescen* OR teen* OR young adults OR youth OR student) OR AB (adolescen* OR teen* OR young adults OR youth OR student) NOT TI (dropout* OR leaver OR patient) NOT AB (dropout* OR leaver* OR patient*) TI (education* OR school OR high?school OR secondary school OR post?primary OR school?based) OR AB (education* OR school OR high?school OR secondary school OR post?primary OR school?based) TI (prevention OR intervention OR program*) AND AB (prevention OR intervention OR program*) TI suicid* OR AB suicid* AND TX (suicid* ideation OR suicid* behavio* OR suicid* attempt* OR

	suicid* inten* OR suicid* thoughts OR self?injur* OR self?harm) NOT TI (review OR meta?analysis OR meta?regression OR sub?group analysis)
Web of Science	TOPIC: (adolescen* OR teen* OR young adults OR youth OR student) NOT TITLE: (dropout* OR leaver OR patient) AND TITLE: (education* OR school OR high?school OR secondary school OR post?primary OR school?based) AND TITLE: (prevention OR intervention OR program*) AND TITLE: (suicid* OR AB suicid*) AND ALL FIELDS: (suicid* ideation OR suicid* behavio* OR suicid* attempt* OR suicid* inten* OR suicid* thoughts OR self?injur* OR self?harm) NOT TITLE: (review OR meta?analysis OR meta?regression OR sub?group analysis)
Cochrane Central Register of Controlled Trials	(adolescen* OR teen* OR young adults OR youth OR student): TI,AB,KW AND (education* OR school OR high?school OR secondary school OR post?primary OR school?based): TI, AB ,KW AND (prevention OR intervention OR program*):TI, AB, KW AND (suicid* OR suicid*): TI, AB, KW in Trials

Note: TI = Title. AB = Abstract. TX = All text. KW = Keyword.

SEARCH STRATEGY

In February 2020 and again in January 2021 PsycINFO, Medline, Education Source, ERIC, Web of Science and the Cochrane Central Register of Controlled Trials were searched to identify studies published from database inception until January 2021, using combinations of keywords representing the following concepts: adolescent, post-primary school, intervention, and STBs (see Table 2.1). Consistent with the Population, Intervention, Comparison and Outcomes and study design (PICOs) framework, studies were eligible if they: (1) included adolescents aged 11-19 years attending post-primary school ('Population'),

(2) interventions conducted in post-primary school settings, measuring STBs including SI, SA and planning, and death by suicide ('Intervention' and 'Outcomes'), (3) comparators including no intervention, other intervention, and wait-list control ('Control') and, (4) CRT study design ('study design'). Studies unavailable in English, non-peer-reviewed publications, and non-CRT studies were excluded. Reference lists of screened studies were searched.

EW assessed study title and abstract eligibility. Eligible studies were fully screened in duplicate by EW and JMM using Rayyan (Ouzzani et al., 2016). Consensus was reached on disagreements. Cohen's Kappa Coefficient (Cohen, 1960) showed adequate agreement (κ = .72, p < .001). 20 authors were contacted for unavailable study details and data (9 incomplete requests). Trials were excluded due to the evaluation of non-school-based interventions (Poppelaars et al., 2016) and unavailability of crude data (O'Leary-Barrett et al., 2013; Orbach & Bar-Joseph, 1993; Randell et al., 2001) and for the first follow-up (Vieland et al., 1991).

DATA EXTRACTION AND EVALUATION

Data was organised by PICOs and intervention and contextual factors. EW completed data extraction. EW and a research assistant extracted intervention and contextual factors in duplicate. Available follow-up outcome data and eligible interventions were extracted for synthesis inclusion. Cochrane Collaboration Risk of Bias Tool for CRTs assessed risk of bias (Eldridge et al., 2016). The question "Were participants aware that they were in a trial?" and "Bias in measurement of the outcome" Domain were omitted for unsuitability to PSSP research. Four studies randomly assessed in duplicate by EW and MH demonstrated adequate agreement (κ = .63, p = .03).

EFFECTS SYNTHESIS AND ANALYSIS

Data were analysed with R statistical packages *Metafor* (Viechtbauer, 2010) and *Meta* (Schwarzer, 2007). Suicide planning (Schilling et al., 2016; Schilling et al., 2014) and deaths

by suicide (Wasserman et al., 2015) were not retained for meta-analysis due to insufficient numbers of effects. Only trials which measured SA and SI were synthesised.

Crude log odds ratios (ORs) and sampling variances were calculated using trial proportions of SA and SI events (Viechtbauer, 2010). Where trial proportions were unavailable, crude ORs and corresponding *p*-values (Shinde et al., 2020) and raw study data (Perry et al., 2014; Poppelaars et al., 2016) were used. Table 2.2 details missing data procedures. Corresponding trial effects adjusted for study characteristics (see Table 2.3) were pooled. Reported log ORs (Fekkes et al., 2016; Gould et al., 2005; Wasserman et al., 2015) and ORs (Shinde et al., 2020) and corresponding *p*-values were extracted or calculated (Aseltine et al., 2007; Schilling et al., 2016; Schilling et al., 2014; Wyman et al., 2010), according to standard procedures (Altman & Bland, 2011; Restore, 2011). Where no adjustments were reported (Poppelaars et al., 2016; Vieland et al., 1991) or data were unavailable for SI (Perry et al., 2014; Perry et al., 2017) and SA (Schilling et al., 2014), crude Log ORs were imputed.

META-ANALYSIS AND MODERATOR ANALYSES

Multi-level random effects univariate meta-analytic and meta-regression models estimated sampling error and population variance, with weighted least squares estimation and restricted estimation likelihood (Borenstein et al., 2011; Viechtbauer, 2010). In order to synthesise all available trials and follow ups, multi-level models incorporated a random effect for trials from the same studies containing dependent control and/or intervention participants (Perry et al., 2014; Perry et al., 2017; Poppelaars et al., 2016; Shinde et al., 2020; Wasserman et al., 2015), to account for the dependency of these effects (Fernandez-Castilla et al., 2020; Viechtbauer, 2010).

Estimates of average pooled effects were obtained by fitting models to Log ORs and back transformation to ORs through exponentiation (Viechtbauer, 2010), representing the likelihood of SI and SA in the pooled intervention group, compared to controls. Cochrane's *Q*

statistic and measures of consistency I^2 quantified between- and within-study heterogeneity; I^2 < 30% and 30% - 60% indicates low and moderate heterogeneity, respectively (Schünemann et al., 2013). Forest plots weighted by their inverse variance depict the distribution of trial ORs. NNT were calculated using the patient expected event rate (PEER) baseline risks (Mendes et al., 2017), based on 12-month prevalence of SI (16.5%) and SA (16.4%) across 83 countries (Tang et al., 2020).

Meta regressions were not conducted where no heterogeneity was observed (Higgins & Thompson, 2002). Moderator reference categories were the lowest or negative category level. *A priori* moderators region and youth involvement contained $k<1$ and were not examined as moderators (Schmidt, 2017). No school characteristics were examined as moderators as 11/12 studies sampled public schools, and few studies provided clear reporting of: (1) school setting (Aseltine et al., 2007; Vieland et al., 1991; Wyman et al., 2010), (2) the gender profile of schools (Gould et al., 2005; Shinde et al., 2020), and (3) exact school sizes (Shinde et al., 2020; Vieland et al., 1991). When duration was presented as a range (Perry et al., 2014; Perry et al., 2017) the median was calculated. Stakeholder involvement included school personnel involved in delivering interventions. Meta-regression models without the intercept term assessed the average OR for moderator levels and models with the intercept produced Log OR contrasts (Viechtbauer, 2010). Publication bias of crude pooled log OR models was assessed by extending Egger's Regression Test (Egger et al., 1997) to meta-regression models, with sampling variances as the moderator (Viechtbauer, 2010). Crude SA and SI trial 95%CIs, Cook's Distance (Cook & Weisberg, 1982) and internally standardised residuals were examined to detect outliers. If outliers considerably impacted meta-analysis conclusions exclusion was considered (Viechtbauer & Cheung, 2010).

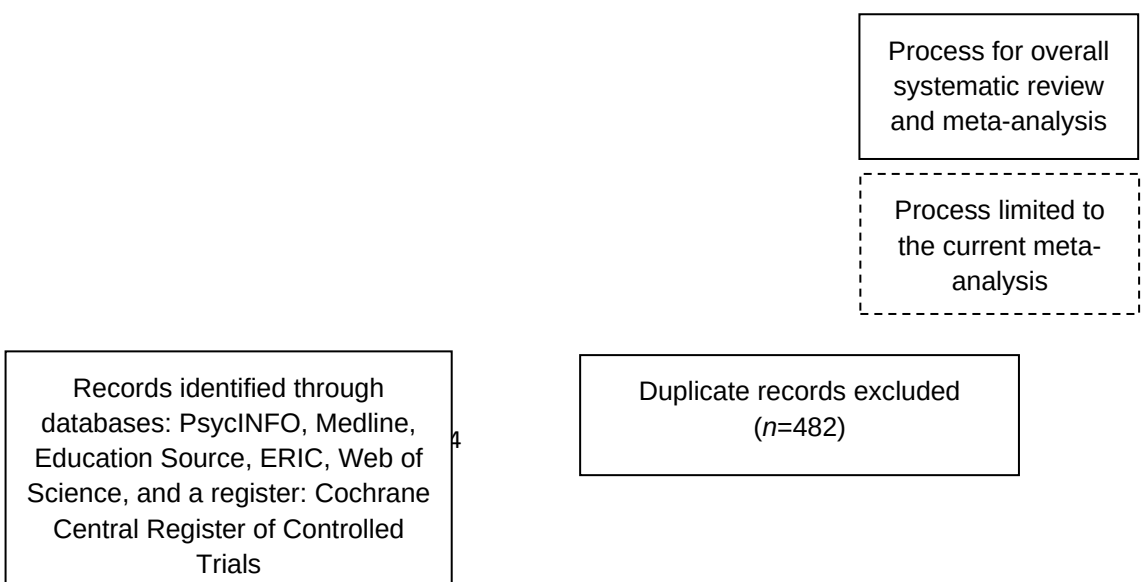
RESULTS

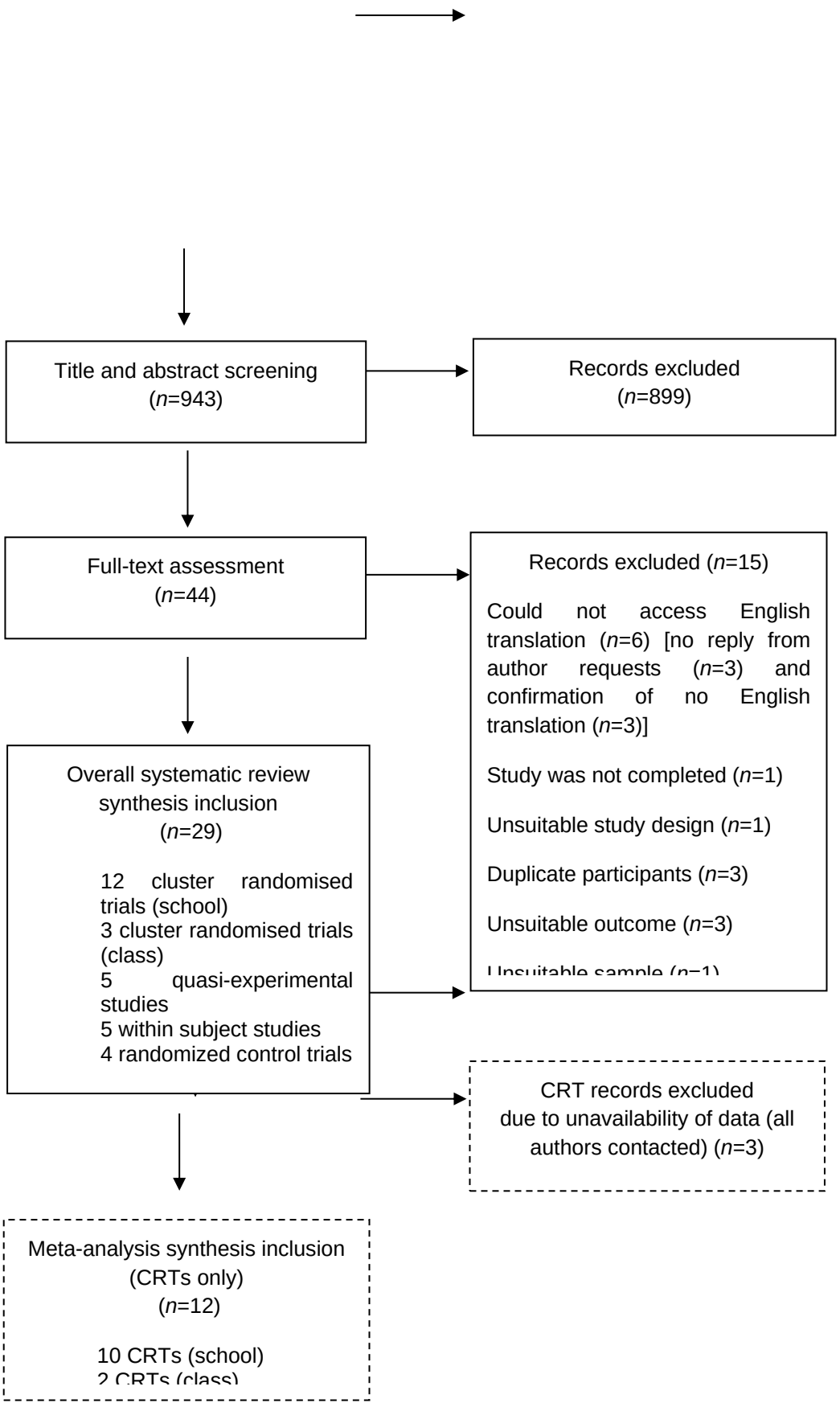
Twelve studies were retained (see Figure 2.1). The lower-bound 95%CIs of the teacher-led trial by Shinde and colleagues (2020) were higher than the SA pooled effect upper-bound 95%CI, indicating that this trial is not representative of the "population" effect (Harrer et al., 2019). This trial's Cook's Distance (.07) and internally standardised residual (1.04) were the largest among all trials. The teacher-led trial by Shinde and colleagues was excluded, as the comparison of coefficients for analyses including this trial (see Table 2.4) with the reported analyses indicated that this trial unusually influenced results.

There were 19 and 12 retained effects for SI and SA, respectively. Studies were published from 1991-2020, containing 33,155 participants aged 11-18 years, sampled across 353 schools. The median percentage of male participants across studies was 49%, calculated from 11/12 studies reporting gender percentages before and after participant dropout. The largest (Wasserman et al., 2015) and smallest (Poppelaars et al., 2016) studies contained 11,110 and 208 participants, respectively. Some studies did not report age but reported school grade (Aseltine et al., 2007; Schilling et al., 2016) or did not report either (Schilling et al., 2014; Wyman et al., 2010). Studies contained mixed-gender samples, other than one female-only sample (Poppelaars et al., 2016). Half of the studies were conducted in North America, and Europe, Australia, and Asia. Risk of bias assessments are presented in Table 2.3.

Figure 2.1

Meta-analysis PRISMA 2020 Flow Diagram




Title and abstract screening
(n=943)
Records excluded
(n=899)
Full-text assessment
(n=44)
Records excluded (n=15)
Could not access English translation (n=6) [no reply from author requests (n=3) and confirmation of no English translation (n=3)]
Study was not completed (n=1)
Unsuitable study design (n=1)
Duplicate participants (n=3)
Unsuitable outcome (n=3)
Unsuitable sample (n=1)
Overall systematic review synthesis inclusion
(n=29)
12 cluster randomised trials (school)
3 cluster randomised trials (class)
5 quasi-experimental studies
5 within subject studies
4 randomized control trials
CRT records excluded
due to unavailability of data (all authors contacted) (n=3)
Meta-analysis synthesis inclusion
(CRTs only)
(n=12)
10 CRTs (school)
2 CRTs (class)

Interventions are fully described in Table 2.2 and trials were categorised as: (1) universal (11/22 trials, including Headstrong, SPARX-R, Strengthening Evidence base on scHool-based intErventions for pRomoting adolescent health [SEHER] programme, and Youth Aware of Mental Health [YAM]), (2) selective (3/22 trials, including Profscreen), (3) selective/indicated (4/22 trials, including Question, Persuade and Refer [QPR], Op Volle Kracht, and Op Volle Kracht/SPARX), and (4) universal/selective (4/22 trials including Signs of Suicide [SOS] and Sources of Strength). Most interventions (7/13) targeted SI and SA along with other health and well-being outcomes (Fekkes et al., 2016; Perry et al., 2014; Perry et al., 2017; Poppelaars et al., 2016; Shinde et al., 2020; Wyman et al., 2010).

Table 2.2

Summary of PICOs, Intervention and Contextual Factors for Studies Measuring Suicidal Ideation and/or Attempts

Study	Region & school details	Population & sample characteristics	Intervention/comparators	Intervention & stakeholder involvement	Outcome measurement (follow-up) & OR (p-value)	Comparator proportions	Risk of bias
Aseltine et al., 2007	NA (Columbus, Georgia, western Massachusetts, & Hartford, Connecticut). Lower & middle class urban & suburban schools.	Multi-ethnic. Freshman, Sophomore, Junior & Senior. ([c]Female=2107 - 51%). High school aged youth.	Universal/selective prevention (SOS): *n*=2039. Control (no intervention): *n*=2094. N^{school}=9.	SOS targeted awareness, incorporated screening & taught signs of suicide and depression & ACT (2 days). External Interviewers.	YRBS (3 mnts). SA= (.63) (.05)[c]. SI=.84(.088)[b] (calculated from SE & beta).	SA. SOS=60/1994, Control=92/2048 SI SOS= 201/ 1991,Control =235/2045[c.]Group sample sizes estimated (% baseline multiplied by follow-up).	Overall, BD1a, BD1b, BD2, BD3, BD5=Low.
Fekkes et al., 2016	Europe (Netherlands) ,· Public non-	Grades 7-9, age range: 13-16 yrs ([c]male=832 – 60%	Universal SEL intervention: *n*=283,	Teacher-delivered Skills for Life targeted behavioural & health issues	Single-item questions (20 mnts) SA=.64(.92). SI=.90 (.70).	SA: SEL=11/283 Control=23/229	Overall. BD1a, BD1b, BD3=High

	denominational schools[a].	of original sample n=1394).	n^{school}=18.Waitlist control: n=229,n^{school}=9.	& social, moral & emotional skills (two school years in ln length).		SI:SEL=54/283 control=60/229.	risk BD2=Low. BD5=Some concerns.
Gould et al., 2005	NA (New York State counties Nassau, Suffolk & Westchester). Public coeducational & parochial boys' schools.	80.3% White. Grades 9-12. *M*=14.8, *SD*=1.2 yrs (58.1% of the original sample were male).	Selective prevention screening: *n*=731. Control (no screening): *n*=719. N^{school}=6.	Screening (2 days) delivered by project child psychiatrist, psychologist or social workers.	Single item (postintervention). 1.2 (.49).	Intervention= 34/731 – Control =28/719[c] estimated by multiplying reported % by group baseline sample sizes.	Overall, BD1a, BD1b ,BD2,BD3,BD 5=Low.
Perry et al., 2014	Australia (Central West, New South Wales). Non-	Mostly White. School yrs 9 & 10, age range:13-16, *M*=14.75 yrs. Equal	Universal programme (HeadStrong): *n*=160, n^{school}=4.Control	Headstrong is teacher-delivered & based on the PDHPE mental health and self-development curriculum (5–8 wks).	MFQ items measured SI (postintervention & 6 mnts). No adjustment effects.	Postintervention: Intervention =57/160.Control=52/159. 6 mnts: Intervention=41/136. Control=26/70.[b]	Overall, BD3=High risk BD1a, BD1b, BD2, BD5=Low.

	government, Catholic & independent schools.	representation across genders.	(PDHPE): *n*=159, n^{school}=2.			Dichotomised into "not true" & all other values.	
Perry et al., 2017	Australia (Metropolitan Sydney). Selective & partially selective government schools.	Multi-ethnic gifted final year students *M*=16.7,*SD*=.51 yrs (female=63%))	Universal preventative depression (SPARX-R): *n*=242, n^{school}=5. Control (LifeSTYLE): *n*=298, n^{school}=5.	SPARX-R=gamified, CBT-based. LifeSTYLE=No mental health content (Both 5-7 wks) Teacher supervised intervention.	YRBS measured SA & SI. No adjusted effects.	4 wks: Intervention=7/205 Control=8/196. 6 mnts: Intervention=3/126 Control =8/198.18 mnts: Intervention =1/39 Control=3/62.	Overall, BD1a=Some concerns BD1b, BD2, BD3, BD5=Low.
Poppelaars et al., 2016	Europe (Netherlands) Unsegregate, low, intermediate & high secondary	Females with depressive symptoms, age range:11-16, *M*= 13.35,*SD*=.71 yrs.	OVK: *n*=50, n^{school}=4. OVK/SPARX: *n*=56, n^{school}=4. Active control: *n*=51, n^{school}=4.	Indicated OVK & SPARX: depression prevention & CBT-based programmes. Psychologist supervised OVK (8 wks) SPARX: home based game.	Single CDI item measured SI (12 mnts). No adjusted effects.	12 mnts OVK/SPARX = 3/56 OVK = 1/50 Control = 1/51[b].	Overall, BD1a,BD1b,BD2,BD3,BD5 =Low.

	education schools.						
Schilling et al., 2014	NA. High impact military middle schools.	White, Hispanic, Multi-ethnic (53% female).	SOS: *n*=299, n^{school}=6. Wait-list control: *n*=87, n^{school}=2.	School psychologists & counsellors & health teachers delivered SOS (2 days).	YRBS (3 mnts). No adjustment effects.	SI SOS=11/295 Control=9/86 SA SOS=5/296 Control =0/86[b]. Group follow-up were estimated using baseline% & follow-up.	Overall, BD1a =High risk BD1b, BD2, BD3, BD5 =Low.
Schilling et al., 2016	NA (Connecticut) . Technical & comprehensi ve schools.	White & Hispanic Ninth-grade students (58% male).	SOS: *n*=650, n^{school}=9 Wait-list control: *n*=396 n^{school}=8.	SOS. School counselling & social work staff presented the programme (2 days).	YRBS (3 mnts). SA =.36(.05)[c]. SI= .90 (.63)[b] (calculated from SE & beta)	SI: SOS=45/650 Control: 36/396 SA: SOS=11/650 Control= 20/396.	Overall, BD1a=Some concerns BD1b, BD2, BD3, BD5=Low
Shinde et al., 2020	Asia (Bihar in India). Government secondary & higher, co-education	Grade 9 (55% male) age range=13-15, *M*=14.7,*SD* .9 yrs.	TSM: *n*=4786, n^{school} =24. SM: *n*=5084, n^{school}=25. Control (Life skills	Counsellor (SM)/teacher (TSM) delivered multicomponent universal health and school climate promotion intervention	SA Single-item (17 mnts) Adjusted: SM =1.11(.68) TSM=1.87 (.008).	No proportions reported. Crude OR and corresponding *p* values: TSM=1.96 (.004) SM=1.12 (.64).	Overall, BD1a, BD1b, BD2, BD3, BD5=Low

	schools size: >600, 301-600,101-300.		programme AEP): *n*=5362, n^{school}=25	(SEHER). AEP (all arms) (104 wks).			
Vieland et al., 1991	NA. Nonurban schools. Size: 750-1450.	Predominantly White students, age *M*=15.8 yrs (52% female).	Universal prevention intervention: *n*=174, n^{school}=2. Wait-list control: *n*=207, n^{school}=2.	A teacher-delivered curriculum-based suicide prevention intervention (1.5 hrs) focusing on support, stress, peers & community resources.	Single item (18 mnts) No adjustment effects.	Intervention= 4/174 control =6/207.[b] Proportions were estimated by multiplying rate of change: 2.5% (Intervention) & 2.7% (control) by groups.	Overall, BD1a=High risk BD1b, BD2, BD3, BD5=Low.
Wasserman et al., 2015	Europe (Austria, Estonia, France, Germany, Hungary, Ireland, Italy, Romania, Slovenia, and Spain).	Participants were from 10 European countries. Age range=14-16 *M*=14.8,*SD*=.8 yrs (59% female).	YAM universal prevention: *n*=2721, n^{school} =45. ProfScreen selective prevention: *n* =2764,$n^{schools}$=43. QPR selective/indicated prevention:*n*=269	YAM: Workshops targeting risk & protective factors. Delivered by instructors. QPR: Gatekeeper training of teachers & school personnel. Profscreen: Screening & referral by health professionals (all 4 wks).	Paykel Hierarchical Suicidal Ladder measured SA &SI (3 &12 mnts). See Tables 2 & 3 in Wasserman et al., 2015.	See Tables 2 & 3 in Wasserman et al., 2015.	Overall, BD1a, BD1b, BD2, BD3, BD5=Low.

	Public schools.		2,n^{school}=40.Wait-list control: *n*=2933 ,n^{school}= 40.				
Wyman et al., 2010	NA (Cobb County, Georgia, New York and North Dakota). Metropolitan & rural schools.	North American students (52%[c] female).	Sources of Strength (universal/selective): *n*=1757, n^{school} =6. Wait-list control: *n* =918, n^{school} =6.	Peer leaders lead prevention messaging & encouraged youth to seek trusted adults (4 mnts).	Single-item (4mnts) Adjusted for baseline: SOS=77/ 1757.Control=47/918[b](% of SI at follow-up by baseline).	SOS=232/1757 Control =124/918[b] Proportions were estimated (% of SI at baseline and follow-up multiplied by baseline groups).	Overall, BD1a, BD1b, BD2, BD3, BD5=Low.

Note: *n*=sample size. OR = odds ratio. β = beta. NI=No information. NA:North America n^{school}=school sample size. SI=suicidal ideation. SA=suicide attempts. PICOs = Participants, Interventions, Control, Outcomes and Study Design. Hrs=hours. Wks=weeks. Mnts=Months. Yrs=Years. CDI = Children's Depression Inventory. CDC=Centers for Disease Control and Prevention. YRBS=Youth Risk Behaviour Survey. ACT= Acknowledge, care, and tell. MFQ=Moods and Feelings Questionnaire. PDHPE = Personal Development Health and Physical Education. CBT = cognitive behavioural therapy. OVK = Op Volle Kracht. YAM=Youth Aware of Mental Health Programme. QPR=Question, Persuade, Refer. SEL = Social and Emotional Learning. AEP = Adolescence Education Program. TSM=Teacher as SEHER Mitra. SM=SEHER Mitra. SEHER=Strengthening Evidence base on scHool-based intErventions for pRomoting adolescent health programme. BD=Bias domain. BD1= Bias domain 1: Bias arising from the randomization process. BD2= Bias domain2: Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomization. BD3=Bias domain 3: Bias due to deviations from intended interventions. BD4=Bias domain 4: Bias due to missing outcome data. BD5=Bias domain 5: Bias in selection of the reported result. ICC=Intracluster correlation coefficient. [a]Corresponding author provided this information via email [b]Estimated based on publication information and data sent by authors [c]The value of the *p* value cut-off reported is used as exact *p* values were not reported.

Table 2.3

Study Characteristics Adjustments for Adjusted Estimates

Study	Adjustments
Wasserman et al. 2015	Age, sex, Strengths and Difficulties Questionnaire total score, not being born in the country of residence, parental job loss in the previous year, not living with both biological parents, and country of residence
Schilling et al. 2016	Gender, ethnicity, grades, eligibility to receive free lunch, baseline reports of lifetime attempts and recent attempts
Aseltine et al. 2007	Ethnicity, gender, grade, and study wave
Schilling et al. 2014	Baseline suicidal ideation, lifetime attempt, gender, ethnicity, baseline parental military status and parental deployment, average grades, grade in school, post-test report of, professional treatment for depression or suicidality in the previous 3 months, English language learner status
Gould et al. 2005	School
Fekkes et al. 2016	Age, gender, education level and urbanisation
Shinde et al 2020	Within-school clustering, stratification variables (school type, size, and nature), baseline cluster-level score of the outcome, and a priori fixed effects to account for age, gender, caste, marital status, and parents' education and occupation
Wyman et al 2010	Baseline

Table 2.4

Meta-analysis and Univariate Meta-Regressions for Suicide Attempts Crude Log ORs (k=13) (Inclusion of Shinde et al 2020 Teacher-led Trial)

	Log OR	**95% CI**	***p* value**	**Between I2**	**Within I2**
Meta-analysis					
	-.36	-.81 to .09	.11	67.08	6.80
Meta-regressions					
Stakeholder involvement (k[n])					
None (5[2])	**Reference group**			63.65	10.29
Teacher or counsellor (4[3])	.25	-.70 to 1.21	.60		
Multi-stakeholder (4[3])	-.13	-.68 to .43	.66		
Duration (k[n])					
1 week ≤ (4[4])	**Reference group**			75.76	4.27
4 weeks (6[1])	.15	-1.32 to 1.62	.84		
4 weeks>-104 weeks(3[2])	.28	-.96 to 1.52	.66		
Follow up (k[n])					
3 months ≤ (6[4])	**Reference group**			69.50	6.11
12 months (3[1])	-.23	-.75 to .29	.39		
17-20 months (4[3])	.25	-.73 to 1.23	.62		
Intervention primarily targets only STBs(k[n])					
No (3[2])	**Reference group**			68.53	6.52
Yes (10[5])	-.28	-1.27 to 0.71	.58		

Note: OR = odd ratio. k = number of effects. CI = confidence interval. Reference: Reference category.

Meta-analysis

There were 22,195 and 20,984 dependent cases in the control and interventions groups, respectively, for SA (control = 10,585 and intervention = 14,406) and 19,058 and 18,993 dependent cases in the control and interventions groups, respectively, for SI (control=7,086, intervention=12,043). Forest plots for SI and SA are presented in Figure 2.1 and Figure 2.2, respectively (see Supplementary Figure 2.1 and Supplementary Figure 2.2 for adjusted counterparts for SI and SA, respectively). ORs were lower for intervention groups in 13/19 and 9/12 of SI and SA trials, respectively.

Suicidal ideation

For crude ORs, compared to the pooled control group, the pooled intervention group was associated with 13% lower odds of SI (OR= .87 [95% CI: .78, .96]). The composite effect was not heterogeneous (Q_{18} = 15.41, p =.63). Within-study and between-study heterogeneity =.0%. For adjusted ORs, OR = .85 [95%CI: .75, .95]; Q_{18} = 10.04, p = .93 and within-study and between-study heterogeneity=.0%.

Suicide attempts

For crude ORs, the pooled intervention group was associated with 34% lower odds of SA (OR = .66 [95%CI: .47, .91]. The composite effect was not heterogeneous (Q_{10} = 16.31, p =.13). Within-study = .20% and between-study heterogeneity = 51.20%. For adjusted ORs, OR = .72 [95%CI: .59, .87], Q_{18} = 10.46, p = .49) and within-study=9.10% and between-study heterogeneity = 0%.

Number Needed to Treat

The crude PEER-adjusted NNT was 55 (adjusted = 47) for SI and 20 (adjusted = 25) for SA.

Extended Egger's Regression Test

Sampling variance as moderators were non-significant for crude SI (Log OR =-.14, p= .74 [95% CI: -.98, .69]; QM_1 = .11, p = .74; Q_{17} = 15.30, p = .57) and SA (Log OR = .39 ,p = .68 [95%CI: -1.45 ,2.24]; QM_1 = .18, p=.68; Q_{10}=16.30, p=.09), and adjusted SI (Log OR = .14, p=.72 [95%CI: -.64, .93]; QM_1 = .13, p = .72; QE_{17}=9.91, p=.91) and SA (Log OR = .01, p = .94 [95%CI: -.41, .44]; QM_1 = .005, p= .94; QE_{10} = 10.46, p=.40).

Meta regressions

Estimations of average SA odd reductions for trials at moderator categories are presented in Table 2.5 and Table 2.6. Univariate meta-regressions for SA were non-significant for crude and adjusted models (all ps > .05).

Table 2.5

Summary of Univariate Analyses of Moderators for Crude Suicide Attempt Log Odds Ratio

Effect moderator	K(N)	OR	Contrast[1] (95%CI)	QE	I2%between	I2%within
Stakeholder involvement				14.83	63.57	6.04
No school stakeholders	5(2)	.65	Reference group			
Teacher or counsellor	3(3)	.72	.10 (-.66 to .87)			
Multi-stakeholder	4(3)	.56[a]	-.15 (-.64 to .34)			
Intervention primarily targets only STBs				15.62	60.89	.00
No	2(2)	.70	Reference group			
Yes	10(5)	.63[a]	-.11 (-.93 to .71)			
Follow up				15.36	63.44	.00
3 months ≤	6(4)	.64	Reference group			
12 months	3(1)	.51[a]	-.22 (-.68 to .23)			
17-20 months	3(3)	.71	.11 (-.72 to .94)			
Duration				14.94	69.89	.00
1 week ≤	4(4)	.60	Reference group			
4 weeks	6(1)	.71	.18 (-1.03 to 1.39)			
4 weeks> - 104 weeks	2(2)	.68	.14 (-.92 to 1.19)			

Note: K = number of effects. N = number of studies. OR = odds ratios. 1=contrasts are log odds ratios (LOR). QE = residual error. STBs = Suicidal thoughts and behaviours. [a] = $p<0.05$. Contrast (LORs) are calculated from meta regressions with the intercept, using dummy variables. ORs are exponentiated LORs outputted from meta-regression models without the intercept.

Table 2.6

Summary of Univariate Analyses of Moderators for Adjusted Suicide Attempt Log Odds Ratio

Effect moderator	K(N)	OR	Contrast[1] (95%CI)	QE	I2%between	I2%within
Stakeholder involvement				7.03	.00	.00
No school stakeholders	5(2)	.68[b]	Reference group			
Teacher or counsellor	3(3)	1.06	.45 (-.07 to .96)			
Multi-stakeholder	4(3)	.63[a]	-.08 (-.53 to .37)			
Intervention primarily targets only STBs				6.97	.00	.00
No	2(2)	1.11	Reference group			
Yes	10(5)	.67[b]	-.51 (-1.04 to .02)			
Follow up				6.62	1.68	.00
3 months ≤	6(4)	.70[a]	Reference group			
12 months	3(1)	.59[a]	-.16 (-.59 to .26)			
17-20 months	3(3)	1.06	.42 (-.11 to .95)			
Duration				6.60	.00	.00
1 week ≤	4(4)	.62[a]	Reference group			
4 weeks	6(1)	.70[a]	.12 (-.27 to .52)			
4 weeks> - 104 weeks	2(2)	1.11	.58 (-.00 to 1.16)			

Note: K = number of effects. N = number of studies. OR = odds ratios. 1=contrasts are log odds ratios (LOR). QE = residual error. STBs = Suicidal thoughts and behaviours. [a] = $p < 0.01$. [b] = $p < 0.001$. Contrast (LORs) are calculated from meta regressions with the intercept, using dummy variables. ORs are exponentiated LORs outputted from meta-regression models without the intercept.

Figure 2.2

Forest plot of crude suicidal ideation odds ratios

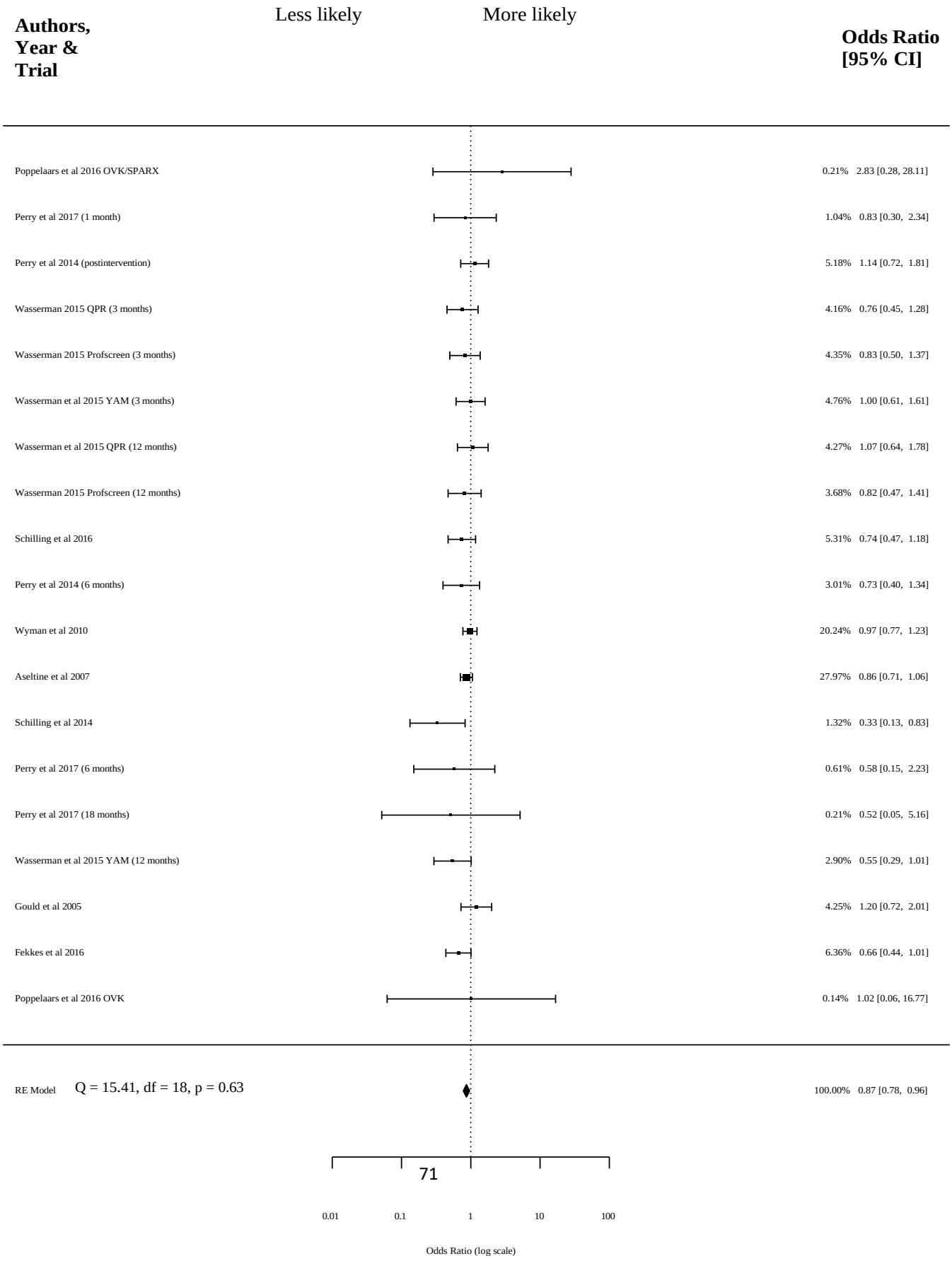
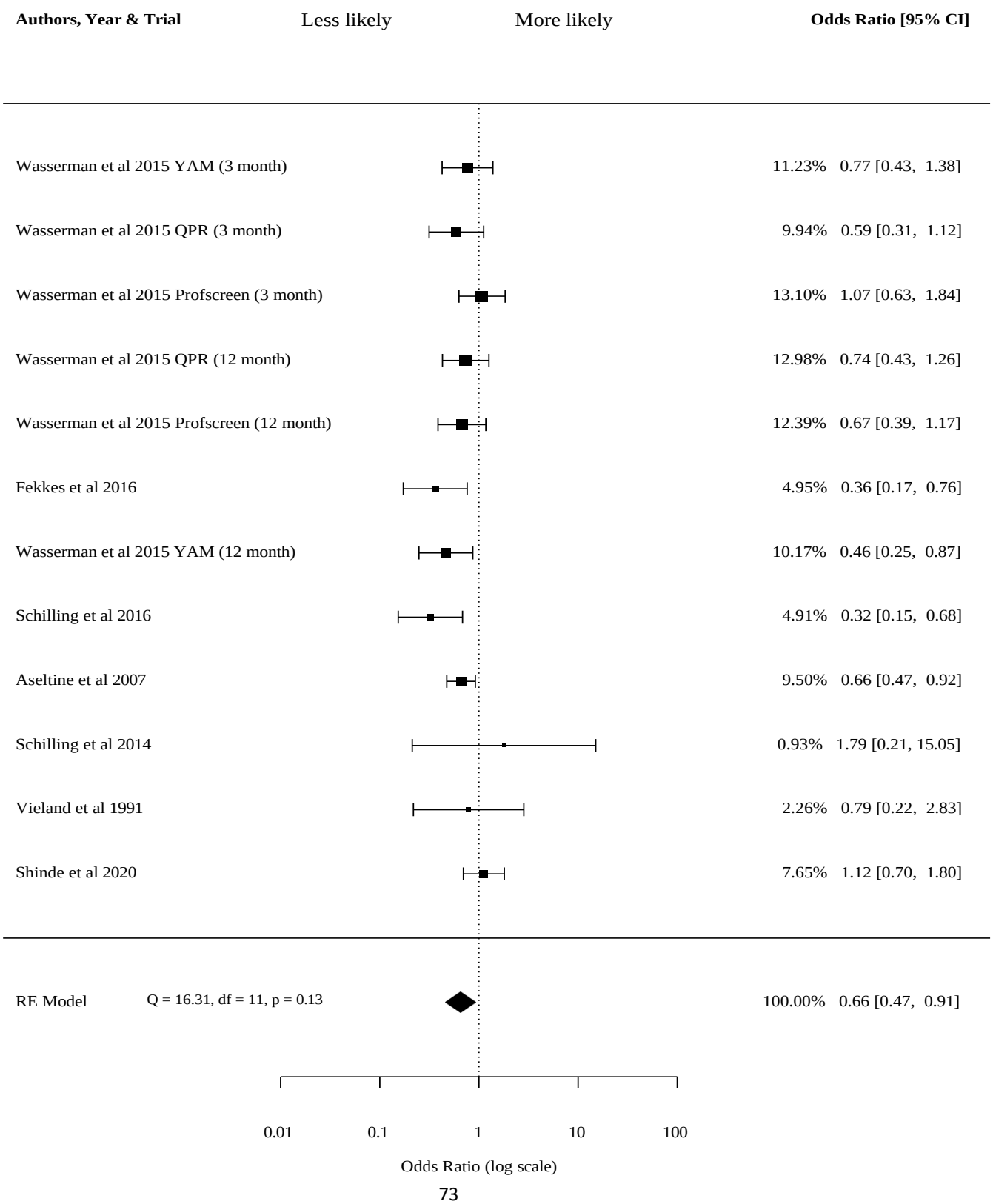

Less likely
More likely
Authors, Year & Trial
Odds Ratio [95% CI]
Poppelaars et al 2016 OVK/SPARX
0.21% 2.83 [0.28, 28.11]
Perry et al 2017 (1 month)
1.04% 0.83 [0.30, 2.34]
Perry et al 2014 (postintervention)
5.18% 1.14 [0.72, 1.81]
Wasserman 2015 QPR (3 months)
4.16% 0.76 [0.45, 1.28]
Wasserman 2015 Profscreen (3 months)
4.35% 0.83 [0.50, 1.37]
Wasserman et al 2015 YAM (3 months)
4.76% 1.00 [0.61, 1.61]
Wasserman et al 2015 QPR (12 months)
4.27% 1.07 [0.64, 1.78]
Wasserman 2015 Profscreen (12 months)
3.68% 0.82 [0.47, 1.41]
Schilling et al 2016
5.31% 0.74 [0.47, 1.18]
Perry et al 2014 (6 months)
3.01% 0.73 [0.40, 1.34]
Wyman et al 2010
20.24% 0.97 [0.77, 1.23]
Aseltine et al 2007
27.97% 0.86 [0.71, 1.06]
Schilling et al 2014
1.32% 0.33 [0.13, 0.83]
Perry et al 2017 (6 months)
0.61% 0.58 [0.15, 2.23]
Perry et al 2017 (18 months)
0.21% 0.52 [0.05, 5.16]
Wasserman et al 2015 YAM (12 months)
2.90% 0.55 [0.29, 1.01]
Gould et al 2005
4.25% 1.20 [0.72, 2.01]
Fekkes et al 2016
6.36% 0.66 [0.44, 1.01]
Poppelaars et al 2016 OVK
0.14% 1.02 [0.06, 16.77]
RE Model
Q = 15.41, df = 18, p = 0.63
100.00% 0.87 [0.78, 0.96]
0.01
0.1
1
10
100
Odds Ratio (log scale)

Figure 2.3

Forest Plot of Crude Suicide Attempts Odds Ratios


Authors, Year & Trial
Less likely
More likely
Odds Ratio [95% CI]
Wasserman et al 2015 YAM (3 month)
11.23% 0.77 [0.43, 1.38]
Wasserman et al 2015 QPR (3 month)
9.94% 0.59 [0.31, 1.12]
Wasserman et al 2015 Profscreen (3 month)
13.10% 1.07 [0.63, 1.84]
Wasserman et al 2015 QPR (12 month)
12.98% 0.74 [0.43, 1.26]
Wasserman et al 2015 Profscreen (12 month)
12.39% 0.67 [0.39, 1.17]
Fekkes et al 2016
4.95% 0.36 [0.17, 0.76]
Wasserman et al 2015 YAM (12 month)
10.17% 0.46 [0.25, 0.87]
Schilling et al 2016
4.91% 0.32 [0.15, 0.68]
Aseltine et al 2007
9.50% 0.66 [0.47, 0.92]
Schilling et al 2014
0.93% 1.79 [0.21, 15.05]
Vieland et al 1991
2.26% 0.79 [0.22, 2.83]
Shinde et al 2020
7.65% 1.12 [0.70, 1.80]
RE Model
Q = 16.31, df = 11, p = 0.13
100.00% 0.66 [0.47, 0.91]
0.01
0.1
1
10
100
Odds Ratio (log scale)

DISCUSSION

This study addresses an important gap in estimating the population effect of PSSP interventions on SA and SI in adolescents using crude and adjusted estimates adjusted for putative confounders and exploring how intervention and contextual factors potentially vary intervention effectiveness. Compared to controls, PSSP interventions were associated with 13-15% and 28-34% lower odds of SI and SA, respectively, among 33,155 adolescents attending 353 schools. Intervention effects for SA did not vary based on *a priori* moderators, and homogeneity in SI models prohibited meta-regression analyses.

INTERVENTION EFFECTIVENESS

This meta-analysis extends previous findings showing significant reductions in adolescent SI following engagement with PSSP interventions by an addition of 5 trials (Gijzen et al., 2022). Considering that life-time prevalence rates predict that approximately one-third of adolescents who experienced SI went on to develop a suicide plan and attempt suicide (Nock et al., 2013), identifying interventions effective in reducing adolescent SI, such as PSSP, is crucial. Present findings extend previous meta-analysis findings demonstrating reductions in SA among adolescents following PSSP at 3-month follow-up (Pistone et al., 2019) and adolescents and young adults at postintervention and follow-up (Robinson, Bailey, et al., 2018), by an additional nine trials.

Present findings extend the evidence-base by synthesising a range of PSSP interventions, including universal, selective, and indicated PSSP, as well as interventions based on social and emotional learning, depression prevention, health promotion and Personal

Development Health and Physical Education curriculum and interventions targeting adolescent SA and SI as both primary intervention outcomes and with other health and well-being outcomes. Because schools are likely to have limited resources to fund preventive interventions (Balaguru et al., 2012), expanding the focus on PSSP is important for PSSP research. The composite effects reported here are critical to understanding the "true" extent of PSSP effectiveness, as large sample sizes are needed to detect effectiveness of PSSP interventions given that base rates and incidences of STBs are low relative to the population (Goldsmith, 2002; Kapur & Gask, 2009). This is reflected in the discrepancy between mostly non-significant trial effects and the significant composite effects for SA and SI herein.

Based on the PEER baseline risks, NNT for crude and adjusted models estimate that one less adolescent would have a SA and experience SI for every 20-25 and 47-55 adolescents engaging in PSSP, respectively. This suggests that implementing PSSP in two typically sized classrooms could prevent one SA and incidence of SI. The clinical significance of the NNT for SA is comparable with the ED-SAFE intervention for reducing SA in individuals in emergency department settings (NNT = 22) (Miller et al., 2017). Given the challenges of effectively tackling adolescent STBs with therapeutic interventions (Ougrin et al., 2015), cognitive-behavioural interventions (Tarrier et al., 2008) and multi-national suicide prevention interventions (Matsubayashi & Ueda, 2011), the present findings have valuable clinical relevance for targeting adolescent STBs.

Next steps in the field should focus on how best to maximise dissemination of PSSP, including scaling, adoption, implementation and sustainability (Flay et al., 2005). Considering that STBs (van Vuuren et al., 2020) and risk factors, including onset of mental health

difficulties, peak during early adolescence and further predict early school drop-out (Jozefowicz-Simbeni, 2008), earlier implementation of PSSP would increase the likelihood that adolescents who are most vulnerable receive PSSP.

META-REGRESSIONS

Meta-regressions did not support any significant moderators of the composite effects for crude and adjusted SA estimates. Notably larger SA odds reductions across crude and adjusted models were found for trial effects with 12-month follow-ups (k = 3, n = 1), in comparison to trials with ≤3 months and 17–20-month follow-ups. The 12-month follow-up effects were derived from universal, selective, and indicated PSSP interventions evaluated as part of the Saving and Empowering Young Lives in Europe (SEYLE) study (Wasserman et al., 2015). Notwithstanding that these trials contain dependent control groups, future PSSP research should include ≥ 12-month follow-ups of SA, as sufficient time may be needed to show the minimum detectable preventive potential of PSSP.

Additionally, larger SA crude and adjusted odd reductions were observed for studies containing interventions of a duration of ≤ 1 week (k = 4, n = 4), with ¾ of these interventions examining the SOS programme which infers programmatic effects. This suggests that interventions, may not have to be time intensive to be effective, which is practically important given scarce resources for school-based health interventions (Ahern et al., 2018). Larger crude and adjusted odds reductions at the category of multi-stakeholder involvement (k = 4, n = 3) suggest that PSSP effectiveness could be enhanced through involving a range of school stakeholders in the delivery of PSSP interventions, including counsellors, teachers, and other school personnel, consistent with evidence that school personnel play critical roles in school-

based preventive strategies (Jozefowicz-Simbeni, 2008; Page, Saumweber, Hall, Crookston, & West, 2013). Inconsistency of crude and adjusted effects for interventions which did not primarily target suicide, and the small number of effects at this moderator level (k = 2, n = 2) preclude interpretation of the effectiveness of these interventions in comparison to interventions primarily targeting STBs (k = 10, n = 5) on SA. However, interventions which primarily targeted suicide demonstrated greater odd reductions in SA preliminarily suggests greater effectiveness of these interventions

RISK OF BIAS

Domains of bias assessed include randomization process, participant and reporting selection and fidelity. The Cochrane Collaboration Risk of Bias tools are amongst the most comprehensive assessment approaches of potential bias in randomized trials (Higgins et al., 2011). Half (6/12) of the retained studies were determined as low risk of bias, with four studies rated high risk of bias. Considering that study quality issues in reviews synthesizing PSSP randomized and non-randomized studies have been previously described (Pistone et al., 2019; Robinson et al., 2018), it is recommended that CRT studies are prioritised for determining the PSSP evidence-base and are the standard design included in prospective meta-analyses. Omission of non-relevant questions may limit the validity of the risk of bias assessment, which is similar to previous PSSP reviews (Robinson, Bailey, et al., 2018), suggesting the need for bias assessment tools with greater relevance to PSSP research.

Publication bias was not an issue, supported by non-significant moderator analyses of the adapted Egger's Regression Test and the consistency of the magnitude of crude SA and SI effects, with effects adjusted for characteristics including demographics, baseline STBs, and

mental health treatment. Selection bias was limited through synthesising all available follow-up and relevant intervention effects in retained studies, and extends previous meta-analyses synthesising PSSP effects which have retained only the intervention follow-up at postintervention (Brann et al., 2021) and longest-term (Hofstra et al., 2020; Robinson, Bailey, et al., 2018) or conducted separate meta-analyses based on timeframe and omitted relevant intervention arms (Pistone et al., 2019).

LIMITATIONS

Meta-regression findings warrant caution due to small numbers of effects across moderator categories, which can increase sampling error in regression weights (Schmidt, 2017). Lack of necessary outcome data resulted in exclusion of 3/15 screened studies. Additionally, school characteristics (e.g., school type and school size) were under-reported across included CRT studies. Considering that school-level variables explained a small but significant amount of variability in youth mental health among 26,885 students (Ford et al., 2021), school-level characteristics should be reported in studies which examine interventions aiming to reduce STBs. Although publication bias appears to not be an issue, effectiveness of PSSP may be overestimated in the present meta-analysis if non-significant SI and SA outcomes were not reported by studies evaluating interventions eligible for inclusion, which particularly may be an issue for interventions which target SA and SI with other health and well-being outcomes. Therefore, full reporting and availability of data should be prioritised in PSSP intervention research.

The combined weight of trials from the same study for the crude composite SA estimate was 69.81%, and non-significant heterogeneity between trials from the same study and trials

from independent studies was moderate at 51.20%. However, the combined weight of trials from the same study for the adjusted composite SA estimate was 55.61%, and between study heterogeneity = 0%, which suggests that trials from the same study did not greatly influence the adjusted composite SA effects. Collectively, we recommend that interpretations regarding the effectiveness of PSSP on SA herein be based on both crude and adjusted estimates or conservatively based only on the adjusted estimate.

Only one study (Wasserman et al., 2015) reported measuring deaths by suicide. Although many PSSP interventions proximally aim to target STBs due to the challenges to evaluating interventions targeting suicide (Balaguru et al., 2012), understanding the impact of PSSP on deaths by suicide is essential. Only one study included young people actively involved in interventions (Wyman et al., 2010), despite emerging research highlighting the importance of youth engagement in sustainable prevention of youth suicide (Trinh & Goebert, 2020). No studies were conducted in Africa or South America. More replication trials are needed to clarify which specific interventions are most effective and where; of the retained studies, the SOS programme was replicated across multiple trials based in North America and the YAM, QPR and Profscreen interventions were examined across 10 European Union countries as part of the SEYLE study. Replication is needed across various contexts, particularly given the cultural variation of STBs (Page et al., 2013), and the variability in schooling contexts across jurisdictions.

CONCLUSIONS

The present findings contribute to the PSSP evidence base by supporting PSSP interventions targeting adolescent STBs as both primary intervention outcomes and with other health and

well-being outcomes as a clinically relevant approach to effectively target SA and SI. Moderator analyses preliminarily support PSSP interventions of ≤1 week duration, involving multiple school personnel stakeholders and with a 12-month follow-up as particularly effective for reducing SA, but given the small number of included trials conclusions warrant clarification by future research. Findings highlight the need for greater consideration of how intervention and contextual factors impact PSSP effectiveness. Findings should be of interest to researchers, clinicians, educators, and policymakers.

CHAPTER THREE

A systematic review of school-based suicide prevention interventions for adolescents, and intervention and contextual factors in prevention.

Manuscript Two: **Walsh, E. H.,** Herring, M. P., & McMahon, J. (2022). A Systematic Review of School-Based Suicide Prevention Interventions for Adolescents, and Intervention and Contextual Factors in Prevention. *Prevention Science*. https://doi.org/10.1007/s11121-022-01449-2

Status: Published

Contribution: EW contributed to the study as follows:

Identified the research objectives

Led the study concept

Determined search terms, inclusion/exclusion criteria, search strategy and ran the searches

Completed data extraction

Completed the narrative synthesis

Drafting and critical revision of the manuscript

Submitted the manuscript for publication

Aim of Study: This study had three aims: (1) to estimate the effectiveness of PSSP interventions targeting STBs as both primary intervention outcomes and in addition to other well-being outcomes, on STBs among adolescents, in studies which employ randomised and non-randomised study designs, (2) to highlight important intervention and contextual factors in the PSSP literature and (3) to investigate PSSP effectiveness with respect to intervention and contextual factors, in line with realist perspectives.

Contribution to PhD and State of the Art: This study is the first review to comprehensively identify and investigate intervention and contextual factors in the wider PSSP intervention literature. A narrative synthesis approach incorporating vote-counting and a textual approach to synthesis numerated study patterns and outlined and combined study findings from 28 studies containing nearly 46,979 participants. Twelve out of twenty-nine trials comparing intervention and independent control comparators reported statistically significant reductions in STBs postintervention, and 5/7 trials comparing preintervention and postintervention scores demonstrated significant reductions in STBs over time. Reporting and analysis of intervention and contextual factors were lacking across studies, but PSSP effectiveness and intervention acceptability varied across type of school. Notably, adolescents had little involvement in designing, inputting on, delivering and sharing their perspectives on PSSP interventions, despite adolescents' perspectives on PSSP interventions important for intervention effectiveness. Twenty out of twenty-eight studies were rated as moderate/high risk of bias, with non-randomised trials demonstrating greater risks of bias and trial effectiveness, in comparison to cluster randomised trials, which represents inverse associations between both study quality and study design with PSSP effectiveness. Our findings demonstrating the importance of

intervention and contextual factors with respect to PSSP effectiveness and implementation requirements aligns with realist approaches discussed in chapter 1, which purport that aspects of context are key to understanding how, why, when and where interventions work, or do not work.

Alignment with PhD programme of research:

The nascency of youth involvement in the field of PSSP identified in chapter 2 is further delineated on in this study to reveal that adolescents had little involvement in designing, inputting on, delivering, and sharing their perspectives on PSSP interventions evaluated using randomised and non-randomised trials which target STBs. Despite a lack of focus on adolescent-related perspectives and experiences in the field of PSSP interventions, adolescents' perspectives on both PSSP interventions and the school settings in which PSSP interventions were situated nonetheless influenced how adolescents' engaged in PSSP interventions. These findings guide the exploration of adolescents' experiences with: (1) engaging with PSSP interventions as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers in chapter 5, and (2) school mental health promotion and suicide prevention in chapter 6. Finally, the inverse associations between both study quality and study design with PSSP effectiveness support the exclusion of non-CRT trials from the meta-analysis in chapter 2

Abstract

Suicide is the fourth leading cause of death among adolescents, globally. Though PSSP interventions have the potential to be a key strategy for preventing adolescent STBs, there are persisting challenges to translating PSSP research to practice. Intervention and contextual factors relevant to PSSP are likely key to both PSSP effectiveness and implementation. As such, this systematic review aimed to summarise the effectiveness of PSSP for adolescent STBs and highlight important intervention and contextual factors with respect to PSSP interventions. PsycINFO, Medline, Education Source, ERIC, Web of Science, and the Cochrane Central Register of Controlled Trials were searched to identify randomised and non-randomised studies evaluating the effectiveness of interventions located in post-primary, school-based settings targeting adolescent STBs. PSSP effectiveness and intervention and contextual factors were synthesised narratively. 28 studies were retained, containing nearly 47,000 participants. 12/29 trials comparing intervention and independent control comparators reported statistically significant reductions in STBs postintervention, and 5/7 trials comparing preintervention and postintervention scores demonstrated significant reductions in STBs over time. Reporting and analysis of intervention and contextual factors were lacking across studies, but PSSP

effectiveness and intervention acceptability varied across type of school. Notably, adolescents had little involvement in designing, inputting on, delivering, and sharing their perspectives on PSSP interventions, despite adolescents' perspectives on PSSP interventions important for intervention effectiveness. 20/28 studies were rated as moderate/high risk of bias, with non-randomised trials demonstrating greater risks of bias and trial effectiveness, in comparison to CRT trials. Given the inverse associations between both study quality and study design with PSSP effectiveness, particular consideration to study quality and design in PSSP research is needed. Future practice should consider PSSP interventions with universal components and PSSP which supports and involves key stakeholders, including adolescents, in engaging with PSSP interventions.

INTRODUCTION

Suicide is the fourth highest cause of death among older adolescents, globally (WHO, 2021c). Adolescence is a unique developmental stage where risk-taking behaviours and mental health difficulties increase (Patton et al., 2016; Spear, 2000). Incidences of STBs occur more frequently during adolescence (van Vuuren et al., 2020), including SI, which are thoughts, wishes and preoccupations with suicide (Harmer et al., 2022), and SA, which are non-fatal acts with inferred or explicit intent to die (Goldsmith, 2002). As previously defined by (Walsh, McMahon, et al., 2022), PSSP consists of the following preventive strategies; universal (i.e., targeting the wider school population); selective (i.e., identifying at-risk groups); and indicated (i.e., targeting STBs in high risk adolescents) (Goldsmith, 2002); and also includes interventions targeting STBs as both primary intervention outcomes and in addition to other

well-being outcomes (Walsh, McMahon, et al., 2022), in line with the emerging focus on upstream approaches which prevent STBs by targeting related factors (Wyman 2014).

PSSP is a key strategy for preventing STBs among adolescents (Robinson, Bailey, et al., 2018; Walsh, McMahon, et al., 2022). However, many review studies of PSSP interventions have only retained studies of randomized and non-randomised designs containing an independent control group (Cusimano & Sameem, 2011; Hofstra et al., 2020; Pistone et al., 2019). Recognising the challenges to evaluating PSSP interventions using randomised controlled trial (RCT) study design, Robinson, Bailey, et al. (2018) included all study designs in their review of suicide prevention interventions in educational settings targeting STBs, similar to Balaguru et al. (2012). As such, there is need for a synthesis of PSSP interventions targeting STBs as both primary intervention outcomes and in addition to other well-being outcomes, in studies which employ wide-ranging study designs.

Additionally, there is long-standing challenges to translating PSSP effectiveness to practice (Kalafat & Ryerson, 1999; Singer et al., 2018), with intervention uptake inhibited in school settings (Reifels et al., 2022; WHO, 2018). Interventions which have worked in one time and place too often do not work across multiple settings (Damschroder et al., 2009; Fletcher et al., 2016), particularly in schooling contexts (Joyce & Cartwright, 2020). Furthermore, PSSP intervention research is not always easily translated to schools settings, as indicated by the following: (1) lack of referral pathways for adolescents identified as at-risk through PSSP interventions (Breet et al., 2021), (2) unsuitability of suicide screening instruments to school settings (Hallfors et al., 2006), (3) challenges engaging teachers and adolescents in school-based interventions (Stallard et al., 2013), and (4) difficulties accessing external facilitators and mechanisms to implement PSSP interventions (Lindow et al., 2019).

It is speculated that the ongoing challenges to implementing preventive interventions in schools are due to the fact that adolescents engage with these interventions in classrooms, which are nested in schools, which are further situated in wider communities and districts, resulting in complex implementation needs (Chiodo & Kolpin, 2018). Drawing on implementation science can identify how PSSP interventions are effective in particular contexts and how to promote PSSP uptake in practice (Breet et al., 2021).

A key tenet of effective school-based prevention intervention is the importance of considering contextual factors that influence implementation (Chiodo & Kolpin, 2018). Realist approaches in intervention research consider context as a multi-faceted concept reflecting 'what works, for whom, in what circumstances, in what respects, and how?'(Pawson & Tilley, 1997) and proposes that intervention effectiveness is likely impacted by contextual mechanisms (Fletcher et al., 2016). Key intervention and school-related contextual factors at individual-, school-, district-, state- and federal-levels (Domitrovich et al., 2008) have been seldom considered in understanding effectiveness and implementation requirements of school-based mental health interventions (Clarke et al., 2021; Lendrum & Humphrey, 2012; Walker, 2004). Recent reviews of school-based identification of at-risk youth demonstrate a lack of understanding of: (1) intervention effectiveness across schooling contexts, (2) the impact of school-related factors on intervention effectiveness and feasibility, and (3) school personnel perspectives, on intervention acceptability and feasibility (Pierret et al., 2020; Soneson et al., 2020).

Understanding the contexts in which interventions are evaluated and implemented in is fundamental to ensuring that evidence-based interventions are effective in practice (Damschroder et al., 2009; Singal et al., 2014). Decision-making surrounding the

implementation of PSSP is rarely informed only by the evidence-base; contextual factors such as resources, school needs, policy and funding allocations are key drivers on the ground which impact the uptake of PSSP interventions (Reifels et al., 2022). As such, highlighting intervention and contextual factors with respect to PSSP is important both theoretically (i.e., for understanding how and when intervention components achieve intervention goals) and practically (i.e., knowledge of the settings in which interventions are evaluated informs future implementation considerations) (Singal et al., 2014).

To our knowledge, no synthesis of intervention and contextual factors with respect to PSSP interventions exists, with most known PSSP reviews describing interventions (Breet et al., 2021; Cusimano & Sameem, 2011; Hofstra et al., 2020; Katz et al., 2013; Pistone et al., 2019; Zalsman et al., 2016), with the addition of who the intervention was delivered by (Balaguru et al., 2012; Robinson, Bailey, et al., 2018; Surgenor et al., 2016) or school setting (Miller et al., 2009). Understanding important intervention and contextual factors in the PSSP literature will contribute to bridging the gap between research and practice in PSSP. In this present systematic review, the multi-level conceptual framework based on theoretically- and empirically-informed factors proposed to influence school-based preventive intervention implementation (Domitrovich et al., 2008) was used as a guiding framework to organise intervention and contextual factors in the PSSP literature, with the latter categorised on macro-, school- and individual-levels.

OBJECTIVES

This review had three objectives:

(1) To estimate the effectiveness of PSSP interventions targeting STBs as both primary intervention outcomes and in addition to other well-being outcomes, on STBs among adolescents, in studies which employ randomised and non-randomised study designs.

(2) To highlight important intervention and contextual factors in the PSSP intervention literature.

(3) To investigate PSSP intervention effectiveness with respect to intervention and contextual factors, in line with realist perspectives.

METHODS

STUDY DESIGN

The protocol for a larger systematic review and meta-analysis was registered with PROSPERO (CRD42020168883). Supplementary Table 3.1 outlines amendments to the protocol relevant to the present systematic review. The meta-analysis presented in chapter 2 synthesised the effectiveness of twelve CRT studies identified in this review, in line with best practice (Borenstein et al., 2011; Donner & Klar, 2002). This review was conducted in accordance with PRISMA guidelines (Page et al., 2021). Realist perspectives informed the guiding conceptual framework for this review (Rycroft-Malone et al., 2012), which prioritised important intervention and contextual factors in the PSSP intervention literature. The multi-level conceptual framework guided the organisation of contextual factors into three subcategories in our review, which Domitrovich and colleagues define as follows: Macro-level factors include broader community factors which can influence schools' intervention implementation, school-level factors include factors pertaining to the school environment which can influence intervention implementation, and individual-level factors refer to characteristics of implementers of PSSP interventions. As end-user acceptability is a key factor

in intervention effectiveness (Kazdin, 1980), individual-level factors were operationalized to include adolescents engaging with PSSP. Intervention characteristics were organized into *core elements* and *delivery of the intervention* proposed as part of the intervention model (Domitrovich et al., 2008). In line with narrative synthesis guidance by Popay et al. (2006), vote-counting numerated study patterns and a textual approach to synthesis outlined and combined study findings, to ultimately summarise PSSP effectiveness and enhance understanding of how intervention and contextual factors impact intervention effectiveness and implementation.

SEARCH STRATEGY

Searches were identical for chapter 2 and chapter 3 (see Table 2.1 for search strings). Searches of PsycINFO, Medline, Education Source, ERIC, Web of Science, and the Cochrane Central Register of Controlled Trials in February 2020 and again in January 2021, identified studies published from database inception. Screened studies' reference lists were searched. The PICOs tool was used to appraise studies (Methley et al., 2014); 'Participants' included adolescents 11-19 years of age in post-primary school, which aligns with key definitions of adolescence (WHO 2021a); 'Interventions' included PSSP interventions targeting STBs as both primary intervention outcomes and in addition to other well-being outcomes; 'Comparators' included no intervention, other intervention, wait-list control, status before, at different time periods during and postintervention; 'Outcomes' included STBs such as SA, SI, and planning, and; 'study design' included experimental study designs. Excluded studies were: (1) unavailable in English, (2) non-peer-review publications, and (3) non-experimental design.

EW initially assessed study eligibility based on title and abstract, and eligible studies were then screened in full by

both EW and JMM using the screening web-tool Rayyan (Ouzzani et al., 2016). EW and JMM reached consensus on full-text screening disagreements and Cohen's Kappa Coefficient indicated almost perfect agreement between EW and JMM's original decisions on full-text screening; $\kappa = .953$, $p < .001$. One of the three trials evaluated in one study (Poppelaars et al., 2016) contained a non-school-based intervention, which was excluded from the synthesis.

DATA EXTRACTION AND ANALYSIS

EW extracted the data fully, with study, intervention and school data extracted in duplicate by a research assistant. Data items presented in Table 3.1 and Supplementary Table 3.2 were organised by PICOs and Domitrovich and colleagues' framework, macro-level factors included 'Region', 'Policies and funding', 'Community–university partnerships' and 'Leadership and human capital'; school-level factors included 'Mission–policy alignment', 'Decision structure', 'School characteristics', 'Classroom climate', 'Resources', 'Personnel expertise', 'Administrative leadership', 'School culture' and 'School climate and organizational health'; and individual-level factors included 'Professional characteristics', 'Perceptions of and attitudes to the intervention' and 'Psychological characteristics'. Statistics were presented for STBs where there were significant differences across control and intervention comparators. Effectiveness was reported separately for studies including an independent control comparator and studies containing the same participants for control and intervention conditions. Additional publications were located when information relevant to the interventions was published elsewhere.

RISK OF BIAS

Risk of bias was rated using the Cochrane Collaboration Risk of Bias tools for CRT, RCT and non-randomised design studies, in line with tools' guidance (Eldridge et al., 2016;

Higgins et al., 2011; Sterne et al., 2016; Sterne et al., 2019). The risk of bias tools included domains of bias related to missing data, results reporting, deviations from interventions and randomisation/experimental design. Amendments to all tools included omitting the *'Risk of bias in measurement of the outcome'* Domain and question '*Were participants aware that they were in a trial?'*, as assessing the awareness of participants in a trial is unsuitable to PSSP research, similar omissions to risk of bias assessments have been made previously in reviews of PSSP (Robinson, Bailey, et al., 2018). Risk of bias of eight studies were randomly assessed by two authors. Disagreements were resolved with consensus and there was adequate agreement between EW, and JMM (κ = .666, p = .008), and MH (κ = .625, p = .030).

RESULTS

Table 1 and Appendix Table 3 outlines data from the included 28 studies evaluating 36 trials, published between 1991-2020. Trials include 46,979 participants aged 11-19 years. As outlined in Figure 3.1, study designs include CRTs (15/28), RCTs (5/28), quasi-experimental (3/28) and within-subjects (5/28). All studies included mixed gender samples, aside from one female sample (Poppelaars et al., 2016). 21/28 studies contained largely White samples or sampled participants from predominantly White countries.

SUICIDE OUTCOMES

Trial outcomes were conceptualised as SI (23/36), SA (18/36), behaviours (1/36); tendencies (1/36) ; threats (1/36); thoughts (1/36); suicide probability (2/36); planning (2/36); and suicide risk (1/36). STBs were measured only by single items in over half the studies (15/28), with four studies using single items from the Youth Risk Behaviour Survey. The Suicide Probability Scale measuring self-reported hopelessness, hostility, negative self-evaluation, and SI, was administered in two studies and was the most commonly validated questionnaire used. There

was considerable variability in both categorical and continuous statistics reported, limiting the amenability of findings.

Figure 3.1

Systematic Review PRISMA 2020 Flow Diagram

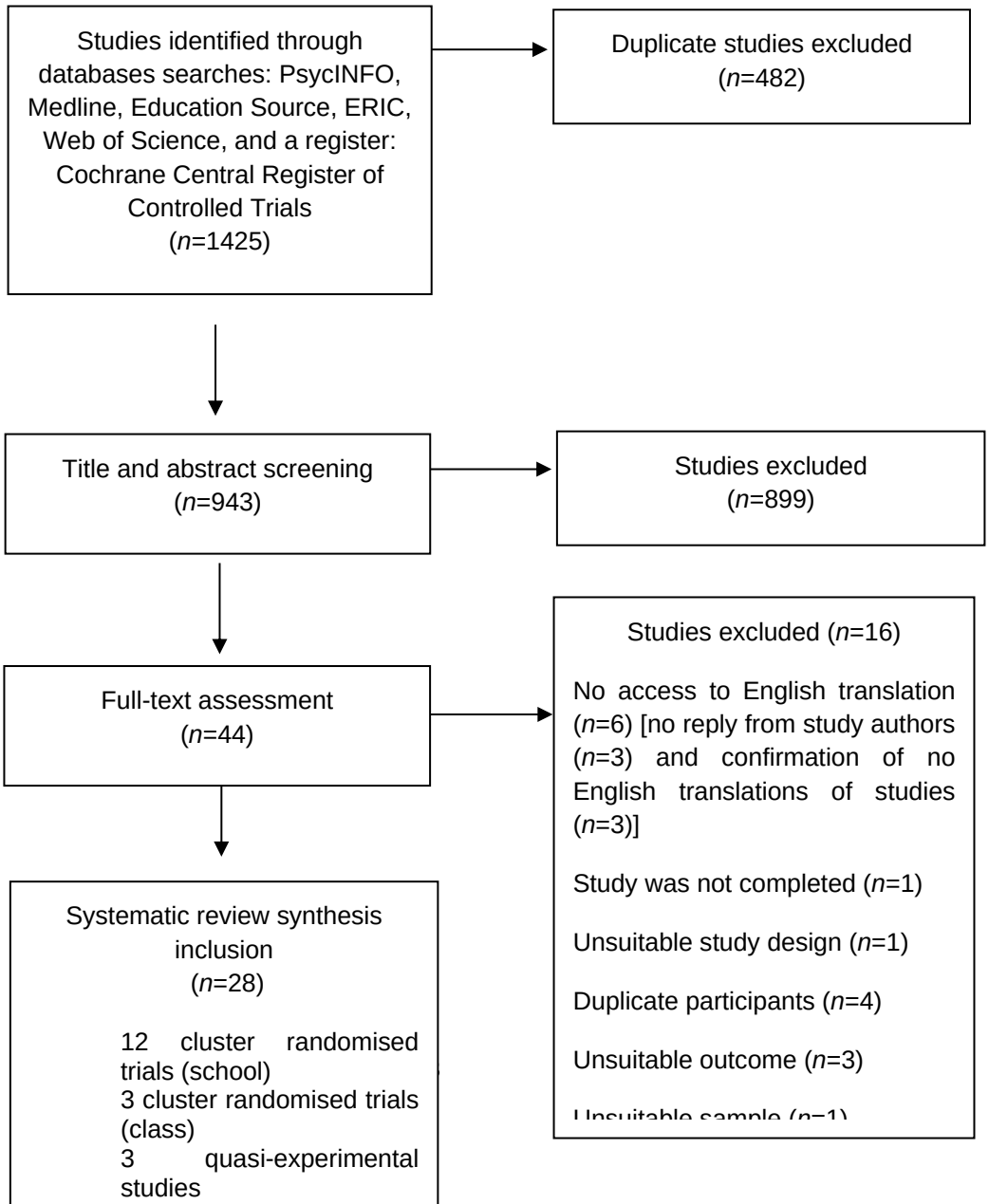


Table 3.1

Summary of Study Characteristics for Retained Studies

Study	Study design	Region & ethnicity	N (% gender)	Intervention(s) (type & duration)	Suicide measures (measures timing)
Aseltine et al. (2007)	CRT (class)	Massachusetts, Connecticut, Georgia, North America. [a]42% White.	4133 (51 female)	SOS (Universal/selective, 2 days)	Single YRBS items measured SA & SI (3 mnts)
Bailey et al. (2017)	Within-subjects	Central Australia. 82% English mostly spoke at home.	129 (54 male)	SafeTALK (Universal, 3 hours)	Single-item measures of suicidal thoughts based on CSS (postintervention & 4 wks)
Eggert et al. (1995)	RCT	North America.[a]28% minority ethnicities.	105 (41.9 male)	Personal growth class (indicated, 5/15 mnts)	BSRB 5-item scale measured SI, suicide threats & SA (baseline, 5 &10 mnts)
Fekkes et al. (2016)	CRT (school)	Netherlands, Europe. [a]94% Born in the Netherlands.	512 ([b]60 male)	Skills for Life (universal, 2 yrs)	Dutch health monitor single-items measured SA & SI (baseline & 20 mnts)

Gould et al. (2005)	CRT (class)	New York State counties, North America. 80.3% White.	1450 (58 male)	Screening (selective, 2 days)	SIQ-JR & single-item measured SI (baseline & postintervention)
Gravesteijn et al. (2011)	QE	Netherlands, Europe.	740 (54 male)	SEL programme (universal, 14 wks)	Single RYM items measured SI & SA (baseline, 2/3 wks, 9 mnts &1 yr)
Hooven et al. (2010)	RCT	North America. 67% White.	615 (61 female)	C-CARE, P-CARE, P&C-CARE (indicated, 4-6 hrs)	High School Questionnaire measured suicide risk (baseline & 2.5-8 yrs)
Kim et al. (2020)	RCT	Peru, South America.	1506 (56 female)	Intervention (universal, approx. 1 yr)	WHO Global School-based Student Health Survey item measure of SA (baseline & 1yr)
King et al. (2011)	Within-subjects	Greater Cincinnati, North America. 85% White.	416 (56 female)	Surviving the Teens (universal, 4 hours)	Validated items measured suicide outcomes (baseline, postintervention & 3mnts)
LaFrombois e et al (1995)	QE	North America. Zuni Public High school attendees.	128 (64 female)	Zuni Life Skills (indicated, 30 wks)	SPS measured suicide probability (baseline & 8 mnts)
Manjula et al. (2018)	Within-subjects	South Bengaluru, India, Asia. Proficient in English or Kannada.	379 (54 female)	Awareness & education program (universal, 6/8 wks)	SPS measured SI & SA (baseline &1-1.5 mnts).

O'Leary-Barrett et al. (2013)	CRT (school)	London, Europe. 42.8% White.	1024 (57 male)	Personality-targeted (selective, 3 hrs)	BSI depression subscale single item measured SI (baseline & 2 yrs)
Orbach & Bar-Joseph, 1993	CRT (class)	Israel, Asia.	393 (55 female)	Intervention (universal, 7 wks)	Israeli Index of Potential Suicide measured suicidal tendencies (baseline & 7 wks)
Perry et al. (2014)	CRT (school)	Central West, New South Wales, Australia. Mostly White.	319. Equal gender	Headstrong (universal,5-8 wks)	6 Mood & Feelings Questionnaire measured SI (baseline, post intervention & 6 mnts)
Perry et al. (2017)	CRT (school)	Metropolitan Sydney, Australia. [a]57% English spoken at home.	540 ([a]63 female)	SPARX-R (universal, 5-7 weeks)	Single YRBS items measured SA & SI (baseline & 4 wks, 6 & 18 mnts)
Poppelaars et al. (2016)	CRT (school)	Netherlands, Europe. 95% born in the Netherlands.	157 (100 female)	OVK & OVK/SPARX (indicated, 8 wks)	Children's Depression Inventory item measured SI (baseline & 12 mnts)
Randell et al. (2001)	CRT (school)	Pacific Northwest, North America 40% White.	341 (52 female)	C-CARE & CAST (indicated, 6 wks)	Suicide Risk Screen measured suicide risk behaviours (baseline, 4 & 10 wks)
Robinson et al. (2016)	Within-subjects	Melbourne, Australia. 85.6% Australian participants.	21 (81 female)	Reframe IT (indicated, 8 wks)	Junior & senior SIQ measured SI (baseline, & postintervention)

Robinson et al. (2016)	RCT	North America. African American sample.	330 (53 female)	A-CWS (indicated, 15 wks)	4 items (Lewinsohn et al 1996) assessed suicide risk (baseline & postintervention)
Schilling et al. (2014)	CRT (school)	North America. 40.8% White.	386 (53 female)	SOS (universal)	Single YRBS items measured SI, SA & suicide planning (baseline & 3 mnts)
Schilling et al. (2016)	CRT (school)	Connecticut, North America 60.2% White.	1046 (58 male)	SOS (universal)	Single YRBS items measured SI, SA & suicide planning (baseline & 3 mnts)
Shinde et al. (2020)	CRT (school)	Bihar, India, Asia.	15,232 (55 male)	TSM & SM SEHER. AEP (all arms) (universal, 2 yrs+)	Single item measurement of SA (17 mnts)
Silverstone et al. (2017)	Within-subjects	Alberta, Canada, North America.	1884 (34 female)	EMPATHY (universal/ selective/indicated, 15 mnts)	2 PHQ items measured suicide risk (baseline,3,7&15 mnts)
Tang et al. (2009)	RCT	Southern Taiwan, Asia.	73 (66 female)	IPT-A-IN (indicated, 6 wks)	Beck Scale for Suicide Ideation (BSS) measured SI (baseline & 6 mnts)
Torcasso & Hilt (2017)	QE	Wisconsin, North America. 84.6% White.	954 (46 female)	Teenscreen (universal/selective, up to 90 days)	Single YRBS items measured SA & suicidality (baseline & 2 yrs)
Vieland et al. (1991)	CRT (school)	North America [a]93% White.	381(52 female)	Curriculum suicide prevention (universal, 1.5 hrs)	Single-item SA measure (baseline&18 mnts)
Wasserman et al. (2015)	CRT (school)	10 countries in Europe [a]6% Not born in country of residence.	11110 (59 female)	QPR: selective/indicated. YAM: universal.Profscreen:selective.4wks	Paykel Hierarchical Suicidal Ladder items measured SA&SI (baseline, 3,12 mnts)

Wyman et al. (2010)	CRT (school)	Georgia, New York & North Dakota, North America [a]80% White	2675 ([c]52 female)	Sources of Strength (universal/selective 4 mnts)	SI measured by 2 single-items (baseline & 4 mnts)

Note: QE: Quasi-experimental. CSS: Columbia Suicide Screen. CAST: Coping & Support Training. OVK: Op Volle Kracht. SIQ: Suicide ideation Questionnaire. BSRB: Brief Suicide Risk Behavior Scale. RYM: Rotterdam Youth Monitor. PHQ: Patient Health Questionnaire. SM:SEHER Mitra. TSM: Teacher as SM. AEP: Adolescence Education Program. Yrs: years. Mnts: months. Wks: weeks. [a]Estimated using relevant study information where exact details were unavailable.

Amongst the 29 trials comparing an intervention condition with an independent control condition (i.e., randomised and quasi-experimental design studies), 13 trials reported statistically significant differences in STBs, with all but one trial (Shinde et al., 2020) demonstrating STBs reductions in comparison to controls at postintervention. Reported follow-up time periods for the 12 interventions demonstrating STBs reductions ranged 2/3 weeks-2.5 years (median=6 months). 4/12 of the trials demonstrated that significant STBs reductions were sustained at a minimum of 12 months postintervention. An odds reduction in the intervention condition of 64% ($p < .05$) in SA at 3 months postintervention (Schilling et al., 2016) was amongst the largest reduction in STBs observed postintervention. In terms of longer term effects, there were 55% and 50% lower odds of SA and SI, respectively, at the 12-month follow up of the YAM intervention among +4200 adolescents (Wasserman et al., 2015). The proportion of effective PSSP interventions varied across study design: CRT trials yielded the lowest proportion (6/20), followed by RCTs (4/8), quasi-experimental designs (2/3) and within-subject designs (5/7).

Intervention

Core elements

Trials contained the following intervention components: universal (18/36) selective (10/36) indicated (15/36). Trials with universal components demonstrated significantly lower STBs in comparison to independent control comparators (6/13), with a further 4/5 trials employing within-subjects designs effective in reducing STBs. Trials with selective components demonstrated significantly lower STBs in comparison to independent control comparators (4/8), with a further 2/2 trials employing within-subjects design effective in reducing STBs. Trials with indicated components demonstrated significantly lower STBs in comparison to independent control comparators (4/13), with a further 2/2 trials employing

within-subjects design effective in reducing STBs. The SEYLE study including three interventions (YAM, Profscreen and QPR) was conducted across 10 European countries (Wasserman et al. 2015). The SOS intervention was the most common intervention evaluated across the retained studies (*n*=3) (Aseltine et al., 2007; Schilling et al., 2016; Schilling et al., 2014), with all trials reporting significantly reduced STBs postintervention ($p<.05$).

Five studies detailed stakeholder intervention input, including; adolescents and teacher/counsellors selecting activities (Shinde et al., 2020); adolescents identifying cultural adaptations (W. L. Robinson et al., 2016); adolescents sharing their perspectives on issues to inform the intervention (Eggert et al., 1995; Kim et al., 2020), identifying case managers (Eggert et al., 1995), and adolescents, teachers and parents co-designing the intervention (Gravesteijn et al., 2011). Two other studies described community input in interventions (LaFromboise & Howard-Pitney, 1995; Silverstone et al., 2017). All but two (Eggert et al., 1995; Shinde et al., 2020) studies demonstrated significantly lower STBs postintervention.

Delivery

Reported intervention duration ranged 1.5 hours–2 years (median=7 weeks). Teachers were mostly involved in delivering intervention trials (14/36), and school counsellors and psychologists delivered 9/36 intervention trials. One intervention involved adolescents as peer leaders (Wyman et al. 2010). Parents were involved in 9/36 interventions. One study which evaluated the SEHER intervention demonstrated statistically significant lesser odds of SA in the lay counsellor delivered intervention, compared to the teacher-delivered intervention; OR =.59 (.38–.93), p=.02.

Contextual characteristics

Macro-level factors

Region. Studies were located in North America (14/28), Europe (5/28), Australia (4/28), Asia (4/28) and one study in South America. Three studies described rising regional suicide rates as a prompt for intervention implementation. It was hypothesised that regional differences in study response rates and participation in the SEYLE study were linked to attitudinal differences of principals and an environmental emergency occurring in one study site (Carli et al., 2013).

Policies and funding. National and state policies relevant to the intervention were cited in 3/28 studies. One study described funding provision for participating schools (W. L. Robinson et al., 2016).

Community–university partnerships. Four studies described university and community partnerships facilitating interventions, with Silverstone et al. (2017) describing a multi-sectoral community partnership approach.

Leadership and human capital. School stakeholders co-ordinated with mental health services throughout two interventions (King et al. 2011; Silverstone et al., 2017), with the intervention evaluated by Silverstone and colleagues additionally involving the school district, education services, primary health care, social services, local services for family practices, and police services. In addition to school personnel, hospital representatives informed the intensive interpersonal psychotherapy for depressed adolescents at suicide risk (IPT-A-IN) intervention by sharing insights on adolescent's mental health and co-ordinating follow-up mental health services (Tang et al., 2009). Three studies described assistance with intervention design and delivery to ensure ensuring cultural appropriateness of interventions and three further studies detailed intervention technical support.

SCHOOL-LEVEL FACTORS. Studies did not report characteristics referring to 'Mission–policy alignment', 'Personnel expertise', 'Decision structure', 'Administrative leadership', 'School culture', 'School climate and Organizational health'.

SCHOOL CHARACTERISTICS. Reporting of school characteristics including location, size and gender profile varied considerably (see Appendix Table 3). Only two studies investigated variation in effectiveness across schools. A non-significant intervention impact on peer leader referrals was observed in smaller, rural schools, but not in metropolitan schools (Wyman et al. 2010). Orbach and Bar-Joseph (1993) reported that a special education class found the intervention to be too exposing, while mainstream classes wanted to extend the intervention. There were reductions in STBs across both mainstream and special education classes.

CLASSROOM CLIMATE. The study evaluating the IPT-A-IN described participant stress and worry related to attention from teachers due to participating in the study and their parents' receiving information about their participation (Tang et al., 2009).

RESOURCES. One study described technical issues related to the lack of capacity of the school information technology system to serve the online-based SPARX-R intervention, which limited students' intervention engagement.

INDIVIDUAL-LEVEL FACTORS

Studies did not report on 'Psychological characteristics' individual-level factors.

PROFESSIONAL CHARACTERISTICS. Seven studies referred to implementer professional characteristics such as expertise, previous qualifications, and willingness to be involved in interventions. Having experience relevant to delivering the intervention was a criteria described in four studies.

PERCEPTIONS OF AND ATTITUDES TO THE INTERVENTION. Six studies measured intervention acceptability using qualitative (3/6) and quantitative (3/6) methods. Anecdotal participant feedback on interventions was described in two further studies (Silverstone et al., 2017; Tang et al., 2009). All of the studies measuring intervention acceptability assessed participant treatment acceptability, with Shinde and colleagues additionally assessing acceptability of

principals and teachers. Overall, studies reported satisfaction, acceptability, and perceived usefulness of interventions, with interventions mostly perceived to be worthwhile in preparing adolescents to help themselves and their friends. The SEHER, YAM and Reframe IT trials reported adolescents' satisfaction with elements of PSSP interventions which actively involved youth in intervention activities, including roleplay, discussions and online activities related to the intervention. Furthermore, adolescents appreciated elements of the SEHER and YAM interventions which facilitated youth input, such as speak out boxes and ability to direct the content of the programme and share opinions on the intervention (Shinde et al., 2017; Wasserman et al. 2018). Three studies investigated adverse effects associated with engaging in PSSP and supported PSSP to not be distressing for the most part. Bailey et al. (2017) demonstrated that suicidal thoughts were not associated with acceptability, but weak evidence (OR=.42, p=.047) indicated that preintervention suicidal thoughts were associated with perceiving the intervention as upsetting.

Information related to engagement with interventions was provided by study authors in 3/28 studies, including failure of several schools to return participant questionnaires on time (Perry et al., 2014), low levels of intervention implementation (Fekkes et al., 2016), and refusal to participate in data collection phases in the intervention (Vieland et al., 1991). Only one study measured and reported on the perspectives of those delivering the intervention as part of an multistakeholder investigation of intervention acceptability and feasibility (Shinde et al., 2020). Shinde and colleagues described that teachers felt overwhelmed delivering the intervention while balancing other role duties (Shinde et al., 2020), with lower-performing schools highlighting a lack of support from fellow teachers. Key facilitators and barriers highlight the importance of considerations to: teacher engagement, participatory nature of activities, and support from school management. Furthermore, teachers and lay counsellors

from lower-performing schools reported a lack of support from fellow teachers who did not approve of the intervention or consider it important.

Risk of bias within studies

Appendix Table 3 outlines overall and domain summaries of risk of bias for each study.

Non-randomised studies

Overall summaries of bias were mostly rated as 'Moderate' (2/5) and 'Critical' (2/5) for within-subjects studies. Quasi-experimental studies were mostly rated as 'Critical' (2/3). 'Moderate' overall summaries indicate that the evidence emerging from the study is sound, and 'critical' overall summaries indicate that the emerging evidence is problematic (Sterne et al., 2016).

Randomised control trial studies

Overall summaries of bias were mostly rated as 'Some concerns' (3/5) , which indicates that there are some issues regarding the quality of evidence emerging from these trials (Higgins et al., 2016)

Cluster randomised control trial studies

Overall summaries of bias were mostly rated as 'Low' (7/15), which indicates that the evidence emerging from these trials are mostly at low risk of bias (Higgins et al., 2016).

Discussion

Our systematic review of 28 randomised and non-randomised studies summarised the effectiveness of PSSP interventions for reducing STBs among 46,979 adolescents and highlighted key intervention and contextual factors with respect to PSSP interventions. 41% (i.e., 12) of the 29 trials comparing intervention and independent control group comparators reported statistically significant reductions in postintervention STBs, and 5/7 trials evaluating

effectiveness of interventions using preintervention and postintervention participant scores reported a significant decrease in STBs over time.

Meaningful reductions in STBs are evident in this review, given that 4/12 trials demonstrated significant reductions in STBs in intervention groups at a minimum of 12 months postintervention. These findings are clinically relevant for researchers and practitioners alike given the: (1) typically low base incidence rates of STBs, which makes it more difficult to detect statistical effects of interventions (Goldsmith, 2002), and (2) capacity to deliver PSSP interventions to groups of adolescents in classroom settings at one given time. Risk of bias was assessed using tools tailored for study design, and there was adequate agreement across authors in risk of bias assessment, strengthening the reliability of our conclusions. The proportion of trials demonstrating effectiveness of PSSP was lower in rigorous study designs, with CRT trials demonstrating the lowest proportion (30%), followed by RCT designs (50%), further followed by quasi-experimental designs (67%) and within-subject designs (71%). Risk of bias was considerably greater in non-randomized studies, with most overall bias assessments rated as 'Critical' for these studies, with CRT studies demonstrating the lowest risk of bias assessment. The inverse associations between both study quality and study design with PSSP effectiveness in our review highlights the importance of considering both study design and quality in conclusions of PSSP effectiveness. While we recognise that CRT design studies are difficult to implement in school settings, and ethical and methodological challenges may hinder the use of randomized designs in suicide prevention research (Robinson et al. 2018), we nonetheless recommend that CRT designs are employed to produce high quality evaluations of PSSP effectiveness.

Our findings differ to previous reviews which concluded that PSSP was effective in reducing STBs in 70% (Robinson, Calear, et al., 2018) and 7.6% (Miller et al., 2009) of 17 and 13 randomized and non-randomized studies, respectively. Our findings extend these review

findings by an additional 11-15 studies, evaluating interventions with universal, indicated, and selective intervention components, located in post-primary school-based settings, targeting STBs as both primary intervention outcomes and in addition to other well-being outcomes. This review is amongst the first to narratively synthesise this expanded focus of PSSP interventions. Interventions containing universal components were most commonly implemented across the retained studies and mostly demonstrated effectiveness in reducing STBs. These strategies enable early detection and prevention, which overcomes challenges in identifying students at risk (Wasserman et al. 2012; Wasserman et al. 2021), and therefore, should be strongly considered as a key PSSP strategy.

Importantly, this is the first known review to comprehensively highlight and investigate intervention and contextual factors with respect to PSSP intervention effectiveness, using narrative synthesis. Overall, there was incomplete reporting of intervention and contextual factors. Our findings are consistent with a previous review identifying the lack of clear reporting of school characteristics across school-based mental health research (Cohen & Barron, 2021). The implications of the lack of reporting of contextual and intervention factors in our review are both theoretical; there is little understanding of the factors which underlie intervention effectiveness, which limits our understanding on whether intervention effects on STBs are dependent on the settings in which they are evaluated in, and practical; there is lack of guidance for practitioners regarding which PSSP interventions will suit their unique schooling contexts, which is likely to hinder uptake of PSSP in practice.

Few studies analysed intervention effectiveness with respect to intervention and contextual factors. Based on the findings that students from a special education class found the intervention too exposing (Orbach & Bar-Joseph, 1993), future research should prioritise investigating what and why PSSP interventions are suitable/unsuitable for special education contexts, to ensure that schools can identify appropriate and effective PSSP. The finding that

significant intervention effects for peer leader referrals as part of the Signs of Suicide programme were observed only in metropolitan schools supports, there is a need to investigate PSSP intervention effectiveness across various localities. School- and classroom-level factors (e.g., resources and culture) can influence interventions effectiveness and implementation quality (Domitrovich et al., 2008), and there is evidence that school factors (e.g., religious ethos of school and school connectedness) can be associated with STBs (Ayyash-Abdo, 2002; Young et al., 2011). As such, we recommend that school-level factors, particularly pertaining to school type (i.e., location, gender, religious ethos, mainstream and special educational needs schools) should be described to enable investigation of PSSP effectiveness with respect to types of schools. In practice, this will aid school personnel's assessment of suitability of potential PSSP interventions to their own schools.

Given that individual-level factors can impact both PSSP effectiveness and implementation (Kodish et al., 2020; Miller et al., 2009), investigation of these factors should be prioritised in future PSSP research. A lack of knowledge and confidence in PSSP can lead to school personnel's non-response and inappropriate response to suicide among young people (Pierret et al., 2020), school personnel's attitudes toward suicide prevention are associated with their behaviours around PSSP (Smith-Millman & Flaspohler, 2019), and cultural and moral beliefs about suicide prevention were identified as barriers to both client self-disclosure and clinicians' inquiries about suicidal intent (Turecki & Brent, 2016). A recent review of school-based mental health interventions found that the most important factors for the sustainability of these interventions pertained to school staff perspectives, including availability of resources and capacity to support interventions (Moore et al., 2022).

Individual-level factors pertaining to end-users of PSSP interventions were rigorously investigated in few studies. User perspectives are particularly important for both intervention effectiveness (Taylor et al. 2011) and implementation (Proctor et al. 2011), and their

investigation should be prioritised, particularly when adolescents engage with PSSP in groups as part of classrooms and are subsequently more susceptible to peer social influence (Prinstein & Dodge, 2008). Furthermore, student engagement with and input on school mental health interventions were identified as key facilitators to intervention engagement by school personnel, with school personnel more likely to engage with interventions when they perceived that students were engaging meaningfully with interventions (Moore et al., 2022).

Our findings contribute to the limited evidence on potential adverse effects of PSSP, showing mostly no distress experienced by adolescents engaging with PSSP. These findings align with meta-analytic evidence supporting the appropriateness of universal screening for STBs (DeCou and Schumann 2018). As only three studies investigated adverse effects of PSSP in our review, further investigation of adverse effects in PSSP studies is needed, considering that concern of adverse effects remains a key barrier for progressing research on youth suicide prevention (Ballard et al. 2013; Thorn et al. 2020).

Limitations

This lack of reporting and analysis of important intervention and contextual factors in PSSP has implications for ascertaining whether intervention effectiveness is attributed to PSSP interventions' key ingredients, or mechanisms involving contextual factors and intervention components. If evidence-based PSSP interventions are to be useful to policymakers and practitioners interested in PSSP implementation, the consideration of intervention components as separate entities to context needs to be replaced by investigation of intervention effectiveness with respect to context (Moore & Evans, 2017), in line with realist perspectives (Pawson & Tilley, 1997).

Our review demonstrates that more than half of the retained studies used single-item measures of STBs. Single-item measures of adolescent SI are commonly used due to the barriers to assessment, including insufficient time, training and measures (Gratch et al., 2022).

Other reviews evaluating the effectiveness of alcohol prevention (Witt et al., 2021) and E-Health (Christensen et al., 2014) interventions similarly identified the use of both single- and multiple-item measures of STBs in studies. Although type of outcome measurement did not meaningfully moderate STB effect measures among 365 studies conducted over the last +50 years (Franklin et al., 2017), use of single-item measurements of STBs have been cautioned against, based on the risk of misclassification (Millner et al., 2015).

Lower income countries and disadvantaged schools were underrepresented in the retained studies, yet adolescent suicide behaviours are higher in lower income countries (McKinnon et al., 2016). As such, there is a particular need for evidence of PSSP intervention effectiveness in these contexts. Furthermore, three quarters of samples in the retained studies were largely White, but suicide risk peaks in adolescence and young adulthood in ethno-racially minoritized youth, in comparison to White youth (Alvarez et al., 2022), which highlights the urgent need to prioritise the evaluation of PSSP targeted at STBs among minority samples.

Our review identifies a gap in replicated effects of PSSP interventions across diverse contexts, which contributes to the lack of cross-cultural transferability of mental health promotion and prevention interventions for adolescents (Kuosmanen et al., 2019). Furthermore, there was little reference to national and state policies relevant to interventions in the retained studies. It has been long recommended that researchers and programme developers understand the mission of those who are at the grassroots of school-based prevention at local, state and federal levels, to achieve mutual interests (Kazdin, 1980).

Few studies included community and university partnerships. A recent review revealed that multi-sectorial collaborations are lacking in suicide prevention more broadly, despite the encouragement of such collaborations by government and research funding entities (Pearce et

al., 2022). Few of the retained studies described the co-ordination between intervention facilitators and mental health services for at-risk students, which aligns with the common, but sometimes incorrect assumption that external referral trajectories are in-place in PSSP (Breet et al., 2021). Inter-sectorial involvement is a key component of successful adolescent health interventions (Patton et al., 2016), and it is recommended that schools implementing PSSP partner with community health providers, adolescent health clinics, or mental health agencies to ensure appropriate aftercare services (Hallfors et al., 2006). Consideration to these factors by researchers during the PSSP intervention design phase may entice more schools and districts to invest time and resources in PSSP research and practice.

It was not within the scope of our review to assess the support system and the standardization of interventions (see Domitrovich and colleagues for further details). Finally, we had challenges locating English language versions of non-English screened studies (*n*=6). Future syntheses should endeavour to synthesize non-English language PSSP effectiveness studies, particularly in the context of our review findings that the retained studies contained studies with largely White samples or sampled participants from predominantly White countries.

Recommendations for future research

Our findings contribute to greater understanding of the PSSP research-practice gap, which aligns with key actions proposed by Reifels and colleagues to advance implementation research and practice in suicide prevention. Full reporting of key intervention and contextual factors with respect to PSSP will allow for integrative analysis of group- and individual-level data, which would strengthen evidence pertaining to causal impacts of PSSP interventions on STBs. PSSP should undergo realist evaluation using frameworks, such as The Context-Mechanism-Outcome-Configuration framework, which evaluates intervention effectiveness as a function of key mechanisms in particular contexts (Pawson, 2013). Multi-site evaluation of

PSSP across diverse contexts will enable investigation of how PSSP effectiveness varies (Breet et al., 2021) and will result in knowledge of how, what, where and why PSSP interventions work, which is needed for greater understanding of implementation effectiveness across settings (Damschroder et al., 2009). Furthermore, employment of CRT designs in PSSP research is needed to explore school-level contextual factors with respect to intervention effectiveness. We also recommend that future PSSP studies use validated, multi-item measures of STBs which are youth-friendly and as concise as possible.

Who delivered the intervention, and perspectives of school personnel and adolescents on PSSP interventions were intervention and contextual factors that analytically and anecdotally varied intervention effectiveness. Where possible, researchers should harness school environments and important stakeholders (e.g., school personnel and adolescents) in their research design, similar to the procedure by Silverstone et al. (2017), which involved the school district in intervention design and adopted a multi-sectoral community approach to the implementation of PSSP. Schools offer a range of unique educational and interpersonal opportunities encompassing families, young people, and the broader community, and involving important stakeholders can ensure that important voices are heard and reflected in services (Fazel & Hoagwood, 2021).

Our review demonstrates the importance of and critical need for greater investigation of individual-level factors related to stakeholders engaging with PSSP interventions. Understanding stakeholders' perspectives is key for the success of school-based mental health interventions (Movsisyan et al., 2021; Stephan et al., 2007). More research focusing on understanding of stakeholder's perspectives will contribute to ensuring that PSSP interventions are suitable, acceptable, and compatible with school and community contexts, which will enhance the translation of PSSP research findings to practice.

Furthermore, our review identifies that adolescents had little involvement in designing, inputting on and delivering PSSP interventions. Despite youth voice inclusion being a hallmark of ecologically oriented public health strategies for school mental health, youth input has been absent in understanding wider school mental health approaches (Fazel and Hoagwood 2021). Global suicide prevention policy advises the involvement of young people in the design of PSSP interventions (WHO, 2018), and therefore youth input in PSSP must be prioritised. Only one study included adolescents in the delivery of interventions. Peer-led PSSP interventions should be given greater consideration, as there are wide-ranging benefits to peers, recipients, and communities in peer-led mental health interventions (King and Fazel 2021; Patton et al., 2016; Wyman et al. 2010).

Preregistration of intervention outcomes is recommended to strengthen reliability of syntheses of PSSP interventions which primarily target non-STB outcomes, given that non-reporting of non-significant STB outcomes could result in non-inclusion of relevant studies in reviews, particularly when interventions primarily targeting non-STB outcomes may measure and report on various non-STB intervention outcomes.

Recommendations for future practice

Our review supports PSSP to be safe and moderately effective for reducing STBs in adolescents. Furthermore, we recommend that schools prioritise PSSP with universal components. The YAM and SOS interventions demonstrated effectiveness in reducing STBs across European and North American contexts, respectively, and therefore should be considered by schools situated in similar cultural contexts. Additionally, the evaluation of the YAM in North America schools has preliminarily demonstrated significant increases in help seeking behaviours and improved mental health literacy, decreased mental health-related stigma (Lindow et al., 2020), and acceptability of the YAM by students, parents, and school staff (Lindow et al., 2019), which supports suitability and effectiveness of the YAM

intervention in North American contexts. PSSP approaches which align with educational and well-being goals and address suicide along with other health and well-being goals merit particular consideration by practitioners.

Notably, our review preliminarily demonstrates that PSSP effectiveness varies across school contextual factors. As such, practitioners should consider aspect of the contexts in which PSSP interventions of interest are evaluated in prior to selecting interventions for their own contexts. PSSP effectiveness differed across school type in our review, and therefore, practitioners should ensure that the PSSP intervention they plan to implement has shown effectiveness in similar types of schools to their own particular school setting.

Our findings identify teachers and school counsellors/psychologists to most commonly deliver PSSP interventions, which aligns with conclusions that school personnel are typically tasked with PSSP (Smith-Millman & Flaspohler, 2019), and that teachers are key PSSP gatekeepers (Nadeem et al., 2011). Teachers need to be supported in their role in PSSP to prevent burnout from balancing their competing demands in their profession (Nadeem et al., 2011). In our review, parental involvement in interventions mostly consisted of receiving updates and referrals on their child's mental health, yet, key barriers to youth suicide prevention service use include parents' and youth's perceptions that problems did not warrant services and would be best solved privately (Gould et al. 2009). In addition, parents' engagement in and communication about school-based mental health services were identified as key challenges reported by administrators at mental health clinics partnering with schools (Cummings et al., 2022). As such, greater parental and youth involvement in interventions should be prioritised in PSSP.

Conclusion

Our review makes an important contribution to the field of adolescent suicide prevention by supporting effectiveness of PSSP interventions evaluated using randomized and non-randomized designs, which target STBs as primary outcomes and in addition to other well-being outcomes. However, our conclusions of PSSP effectiveness in 17/36 randomized and non-randomized trials warrant caution, given the high-risk of bias identified in our review, particularly with respect to non-randomized studies. Our findings are amongst the first to demonstrate the need for greater reporting and analysis of intervention and contextual factors with respect to PSSP in randomised and non-randomised studies, to clarify how PSSP is effective and understand how interventions should be delivered, where and to whom (Fletcher et al., 2016; Singal et al., 2014; Taylor et al., 2011), which is critical for enhancing the translation of PSSP research to practice. our findings demonstrate that PSSP effectiveness and acceptability varies across school type, but more research is needed to clarify these relationships. Notably, the perspectives of school personnel and adolescents on PSSP are particularly scant, despite their integral role in PSSP, and greater involvement of adolescents in designing, inputting on, and delivering PSSP interventions is needed. Our findings have wide-ranging research, policy, and programmatic implications pertinent to educational and clinical practice.

CHAPTER FOUR

Exploring adolescents' perspectives on and experiences with post-primary school-based suicide prevention: A meta-ethnography protocol.

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Status: Published

Contribution: EW contributed to the protocol as follows:

Identified the research objectives

Led the study concept

Determined search terms, inclusion/exclusion criteria and search strategy

Drafting and critical revision of the manuscript

Submitted the manuscript for publication

Aim of protocol: The aim of the protocol is to outline a meta-ethnography review, which will explore adolescents' perspectives on and experiences of engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers.

ABSTRACT

Globally, suicide is the fourth leading cause of adolescent mortality. Although PSSP interventions are an evidence-based strategy for targeting adolescent STBs, PSSP effectiveness does not easily translate to school settings. Adolescents' perspectives on PSSP are particularly

important for: (1) intervention effectiveness and implementation in both research and practice, (2) addressing PSSP evidence-practice gaps, and (3) enhancing meaningful adolescent involvement in PSSP, yet there is a gap in understanding adolescents' experiences of engaging with PSSP interventions. As such, this protocol outlines a meta-ethnography which will explore and synthesise adolescents' perspectives on engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers. The meta-ethnography protocol follows the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines. The protocol was guided by Noblit and Hare's seven-stage process for meta-ethnography. Searches of PsycINFO, Medline, Web of Science, CINAHL, ERIC, Scopus and study reference lists will identify peer-reviewed studies. Grey literature will be identified by searches in ProQuest, British Library EthOS, and DART-Europe E-theses Portal. Findings of the retained studies will be synthesised in line with Noblit and Hare's stages and evaluated using the Critical Appraisal Skills Programme (CASP) checklist. This is the first proposed meta-ethnography to explore and integrate qualitative findings exploring adolescents' perspectives on engaging with PSSP interventions. Understanding adolescents' experiences of engaging with PSSP interventions will be important for: (1) enhancing research processes and intervention effectiveness and implementation, (2) informing decision-making and policymaking relevant to practice, (3) guiding meaningful adolescent involvement in PSSP, and (4) contributing to knowledge on the safety implications of engaging adolescents in PSSP. Finally, insights from this meta-ethnography will be widely applicable, given the growing demand for meaningful youth involvement in health-related fields.

Background

Suicide is the fourth leading cause of mortality in 15-19-year-olds globally (WHO, 2021c). Concerns of increased youth suicide beyond COVID-19 (National Child Mortality Database, 2020; Robinson et al., 2022; Sara et al., 2022) necessitates the implementation of effective adolescent suicide prevention strategies. In line with existing definitions of adolescence (WHO, 2021a), we define adolescents as young people aged 11-19 years, which aligns with the typical age range of post-primary school students (Citizens Information, 2021, October 8; National Center for Education Statistics, 2022). PSSP is an evidence-based approach for targeting adolescent STBs (Robinson, Bailey, et al., 2018; Walsh, McMahon, et al., 2022), which are prominent risk factors for death by suicide (Goldsmith, 2002). Despite the potential of PSSP to be a key adolescent suicide prevention approach, there are persistent challenges to translating the effectiveness of PSSP research to school settings, resulting in evidence-practice gaps (Kalafat & Ryerson, 1999; Smith-Millman & Flaspohler, 2019).

Adolescents' experiences of engaging with PSSP are largely unexplored but are yet likely paramount to bridging the evidence-practice gap in PSSP. How acceptable and suitable health interventions are perceived by individuals engaged in interventions is critical to both intervention effectiveness (Rojas-Andrade & Bahamondes, 2019) and implementation (Proctor et al., 2011). Engagement encompasses a variety of ways in which individuals are involved in interventions in research and practice, from participation as end-users to planning, design, analysis, translation and dissemination (Campus Engage, 2017; Dunne & Owen, 2013). Adolescents not only engage with suicide prevention as research participants and intervention end-users, but also as intervention facilitators (Wyman et al., 2010) and advisors (LaFromboise & Howard-Pitney, 1995; W. L. Robinson et al., 2016) and co-researchers (Thorn et al., 2020).

A review of school-based mental health interventions supported intervention fidelity components linked to adolescents' perspectives (i.e., receptiveness to interventions) as stronger predictors of postvention mental health outcomes, in comparison to intervention fidelity

components linked to the intervention itself (i.e., intervention quality), indicating that adolescents' perspectives on school based mental health interventions are markedly important to intervention success (Rojas-Andrade & Bahamondes, 2019). The particular importance of understanding adolescents' experiences engaging with PSSP research is further exemplified by: (1) the common delivery of PSSP in classrooms or to groups of adolescents who are developmentally more susceptible to peer influence (Ciranka & van den Bos, 2019; Prinstein & Dodge, 2008), (2) the links between adolescents' difficulties in engaging with PSSP research as participants and participant drop out (Tang et al., 2009), (3) reports of a weak association between adolescents' preintervention rates of STBs and perceiving a PSSP intervention as upsetting (Bailey et al., 2017) and youth perceptions of PSSP interventions as intrusive (Eckert et al., 2006; Orbach & Bar-Joseph, 1993), and (4) the sensitive nature of suicide as a mental health topic (The Lancet Psychiatry, 2022).

Furthermore, understanding adolescents' perspectives on PSSP thus far is a fundamental step in progressing meaningful adolescent engagement in PSSP research, which can be understood as adolescents' active and decisive involvement throughout the research process (MacSweeney et al., 2019). One reason that patient and public involvement in research is gaining traction in recent times (Wicks et al., 2018) is that interventions are more acceptable and suitable when target populations are meaningfully engaged in the research process (INVOLVE, 2009). However, meaningful adolescent engagement in PSSP research disproportionately lacks; for the most part adolescents did not aid the design of or input on PSSP interventions in a recent review of studies investigating the impact of PSSP interventions on STBs (Walsh, Herring, et al., 2022) and partnerships between suicide prevention researchers and young people are sparse (Bailey et al., 2020). Adultism has positioned youth passively in research leading to lack of agency and space for young people to contribute to research meaningfully (Teixeira et al., 2021). Young people are well-positioned to advise on and partake

in decision-making and design processes in suicide prevention (WHO, Schilling et al., 2021; 2021b) and have expressed the importance of their voice in school mental health (Hennessey et al., 2021).

Moreover, knowledge of adolescents' perspectives on PSSP and enhancing meaningful adolescent involvement in PSSP research also responds to moral and socio-political obligations; the UNCRC mandates that adolescents' views are forefront to matters concerning them (UN Human Rights, 1990), and the Lancet Commission on Adolescent Health and Wellbeing advocates for adolescent voice in interventions concerning their well-being (Patton et al., 2016).

There is a critical need to address the gap in understanding adolescents' perspectives on engaging with PSSP interventions. There is no known synthesis of the qualitative research exploring and collating the varied experiences of youth engaging with PSSP interventions, despite the existence of qualitative research exploring adolescents' perspectives on engaging with PSSP. Meta-ethnography is well-positioned to draw qualitative findings together, generate over-arching understandings of collective experiences and develop insights to inform decision-making (Noblit & Hare, 1988).

OBJECTIVES

The objective of the current protocol is to outline a meta-ethnography review, which will explore adolescents' perspectives on and experiences of engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers. The research questions guiding the meta-ethnography were developed based on the Population, Exposure and Outcome (PEO) framework (Capili, 2020) and are as follows:

(1) What are the perspectives of adolescents aged 11-19 years on engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers?

(2) What are the experiences of adolescents aged 11-19 years in engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers?

METHODS

The Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines (Moher et al., 2015) informed the preparation and the reporting of the present meta-ethnography protocol. This protocol is registered with PROSPERO (CRD42022319424).

Qualitative studies will be identified in the review and subject to a meta-ethnographic approach. Meta-ethnography will be used to synthesise and evaluate the outcomes of the retained studies, in line with Noblit and Hare's (1988) seven stage process for conducting meta-ethnography, which includes the following stages: *(1) getting started, (2) describing what is relevant to the initial interest, (3) reading included studies, (4) determining how the studies are related, (5) translating the studies into one another, (6) synthesising translations*, and *(7) expressing the synthesis*. The meta-ethnography will also be guided by Campbell and colleagues (Campbell et al., 2011) and Lee and colleagues (Lee et al., 2015) France and colleagues and will be presented in line with the eMERGe reporting guidance and the PRISMA statement guidelines (France, Cunningham, et al., 2019; Page et al., 2021).

STUDY SELECTION

Consistent with the PEO framework studies were eligible for inclusion if they: sampled adolescents aged 11-19-year-olds who had engaged with PSSP interventions as

participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers ('Population'); included interventions conducted in post-primary school settings targeting suicide-related outcomes (i.e., STBs, help-seeking behaviours) as both primary intervention outcomes and with other health and well-being outcomes ('Exposure') and; reported adolescents' experiences with and perspectives on engaging with PSSP ('Outcome').

Inclusion criteria include: (1) English language studies, (2) peer-reviewed journal articles and grey literature, and (3) qualitative and mixed-method studies reporting qualitative data collection methods and qualitative analysis. Exclusion criteria include: (1) studies which do not include a method of qualitative data collection or analysis, (2) review and synthesis studies, (3) studies which sample participants engaging with PSSP located in third-level education or university settings. Third-level education refers to education after second-level schooling, which results in a level 4+ qualification (i.e., university degree or degree apprenticeship (The Good Schools Guide, n.d.)

Studies available from database inception will be identified by searches in PsycINFO, Medline, Web of Science, CINAHL, ERIC, and Scopus. Grey literature will be identified by searches in ProQuest, British Library EthOS, and DART-Europe E-theses Portal. Where appropriate, MeSH, subject and wildcard terms and truncation will be applied to database search strings. Database searches will be supplemented by searches in Google Scholar and reference lists of screened studies. Table 4.1 outlines the search terms which will be used for the literature searches. If full texts of studies are unavailable the corresponding author will be contacted, with a period of 21 days the maximum waiting time for studies. Retrieved studies from database searching will be exported to RAYYAN QCRI (Ouzzani et al., 2016).

Table 4.1

Search Terms for Meta-ethnography Database Searches

PEO framework components	Search terms
Population	adolescen* OR teen* OR young AND adult* OR youth OR student OR child*
Exposure	education* OR school OR high?school OR secondary school OR post?primary OR school?based OR middle?school AND prevention OR intervention OR program* AND suicid*
Outcomes	perspective* OR perception* OR attitude* OR perceive* OR understanding OR experience* OR view* OR opinion.

Note: Search terms will be used for Scopus and adapted for other databases.

Initially, the main reviewer will assess the eligibility of studies based on title and abstract. Any uncertainty of eligibility will be discussed by the reviewers until consensus is met. Then, the main reviewer will assess the eligibility of all full-texts, with full-texts reviewed by at least two reviewers. Any discrepancies in full-text assessment will be discussed with the aim of reaching consensus. If necessary, where consensus cannot be met between the main reviewer and the other reviewer, a third reviewer will be consulted. Inter-rater reliability of full text assessment will be quantified using Cohen's Kappa Measure of Agreement Coefficient (Cohen, 1960). All excluded articles (including duplicates) will be recorded. This selection process will be detailed in the PRISMA flow diagram for systematic reviews (Page et al., 2021).

QUALITY APPRAISAL

Study appraisal will be undertaken using CASP checklists (CASP, 2013), which will be completed by two reviewers, to both assess quality of the retained studies and enhance in-depth understanding of studies. An additional question will be added to the CASP assessment; *"Are the interventions of interest clearly described?",* similar to the procedure of a meta-ethnography synthesis of young people's experiences with mental health interventions (Shaw et al., 2019). The consideration to data saturation as part of the CASP checklist criteria will

only be given to studies employing qualitative methodologies which recognise data saturation as an appropriate conceptual tool (Braun & Clarke, 2019b). Any disagreement in CASP assessments between reviewers will be discussed until consensus is reached. If necessary, where consensus cannot be met between the two reviewers, a third reviewer will be consulted.

STAGE (1) GETTING STARTED

The topic of interest was identified and discussed by the co-authors and explored based on the literature presented in the *background* section of this protocol. Meta-ethnography was identified as an appropriate methodology to synthesise qualitative research exploring experiences and perspectives of adolescents engaging with PSSP (Noblit & Hare, 1988). Furthermore, meta-ethnography enables the generation of novel interpretations which both explain and go beyond the findings of individual studies included in the review (Campbell et al., 2011; Mays et al., 2005).

STAGE (2) DESCRIBING WHAT IS RELEVANT TO THE INITIAL INTEREST

The end-goal of this stage is to develop an exhaustive list of studies to be included in the meta-ethnography (Noblit & Hare, 1988), which will be achieved by study selection procedures.

STAGE (3) READING INCLUDED STUDIES

Reading the retained studies will be undertaken to achieve several goals, including familiarisation, extraction, appraisal and comparison (Lee et al., 2015). The main reviewer will also partake in active reading by annotating and coding data, to facilitate in depth appraisal of the studies, as recommended by Lee and colleagues (Lee et al., 2015). Studies which lack conceptual depth will not be synthesised, as recommended by France and colleagues (France, Cunningham, et al., 2019).The main reviewer will extract participant and study author data relating to adolescents' experiences with and perspectives on PSSP. Participant data includes

participants' own understanding of beliefs and experiences (i.e., first-order constructs) and study author data include study authors' interpretations of participant data (i.e., metaphors, themes, categories, concepts, ideas, metaphors etc.) (i.e., second-order constructs) (Campbell et al., 2011; Lee et al., 2015; Noblit & Hare, 1988). The following data from the included studies will be tabulated and described in the main text of the meta-ethnography: (1) Study and intervention characteristics (study aims and intervention types), (2) participant demographics and characteristics, (3) school demographics and characteristics, and (4) data collection and analysis details (i.e., data collection method and analytical approach). NVivo12 software will record data.

STAGE (4) DETERMINING HOW THE STUDIES ARE RELATED

The main reviewer will lead data analysis, and at least one other reviewer will provide critique and guidance on analysis, in line with Lee and colleagues' recommendations of enriching meta-ethnographic interpretation through collaboration. .Stage 4 will involve three key steps (France, Uny, et al., 2019): (1) listing first- and second-order constructs and documenting how constructs relate to each other within study accounts, (2) comparison of constructs and study characteristics across studies, (3) determining how key constructs relate to one another across studies. Firstly, first- and second-order constructs will be coded using an *a priori* coding frame based on the research questions, similar to previous meta-ethnography procedures (Gilmour et al., 2019). Given that study authors report participants' quotations to support their interpretations of the data, first-order constructs will be coded (and subsequently analysed and synthesised) alongside corresponding second-order constructs (France, Uny, et al., 2019). Commonality and reoccurrence between constructs within studies will be recorded. Secondly, coded constructs (and within-study relationships) will be compared across studies. Key themes representing common and reoccurring constructs sharing underlying central concepts will be developed. Study characteristics including research design, intervention

characteristics, and participant characteristics will be subject to cross study comparison. Thirdly, how studies relate to one another (i.e., reciprocally and/or refutational) will be determined based on the relationships between studies and key themes. Studies will be grouped based on the presence or absence of key themes. The relationships between key themes will also be considered in relation to the research questions and study characteristics (Campbell et al., 2011; France, Uny, et al., 2019; Lee et al., 2015).

STAGE (5) TRANSLATING THE STUDIES INTO ONE ANOTHER

Stage 5 will involve the translation of constructs from one study into another to arrive at constructs which embody multiple constructs (Campbell et al., 2011; France, Uny, et al., 2019). The identification of similarities and disagreements between studies will guide the subsequent synthesis approaches (i.e., reciprocal translations and refutational synthesis) (France, Uny, et al., 2019; Noblit & Hare, 1988). Studies will be translated into each other by conducting a constant comparison of the grouped studies, which involves conducting between-study comparisons, while maintaining within-study comparisons; for example key constructs and themes in study one will be compared with key constructs and themes in study two, and key constructs and themes in study one and study two will be compared with constructs and themes in study three. (France, Uny, et al., 2019; Lee et al., 2015).

STAGE (6) SYNTHESISING TRANSLATIONS

The type of synthesis approach undertaken will determine if constructs and their respective translations encompass those in other studies, leading to analysis of competing translations and translation into each other. Stage 6 will result in key meta themes and a lines-of argument synthesis will be created from *t*he resulting third-order constructs. Lines-of-argument synthesis may lead to a new model or theory beyond the individual interpretations of the retained studies, about the experiences of young people engaging with PSSP (France, Uny, et al., 2019; Lee et al., 2015; Noblit & Hare, 1988).

STAGE (7) EXPRESSING THE SYNTHESIS

The synthesis will follow the eMERGe reporting guidance and will be submitted for peer review publication. It is expected that key findings from the meta-ethnography will be presented to academic and lay audiences.

Discussion

To our knowledge, this is the first proposed meta-ethnography which will explore and synthesise qualitative studies documenting adolescents' perspectives on engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers. Insights from this meta-ethnography will address a key gap in the field of PSSP by enhancing understanding of the experiences of adolescents' engaging with PSSP, such as how acceptable and suitable (or not) PSSP may be perceived by adolescents and the potential barriers to and facilitators of engaging with PSSP. The generation of a lines-of-argument synthesis will result in a novel and overarching understanding of adolescents' experiences with PSSP, which may reveal interpretations which were not apparent in the individual studies (Noblit & Hare, 1988). These insights have potential to have considerable impact in guiding decision-making and policymaking in the field of PSSP (Campbell et al., 2011), which could be formative in addressing the longstanding PSSP evidence-practice gap.

Given that qualitative analysis of experiences is critical for informing intervention research and highlighting important information relating to intervention context and implementation (Evans & Hurrell, 2016; Lorenc et al., 2012), the application of insights generated from this meta-ethnography could contribute to enhancing PSSP research outcomes, intervention effectiveness and implementation. Furthermore, it is expected that insights from this meta-ethnography will inform guidance on *how* adolescents should be involved in PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers

and co-researchers, which is necessary to alter the trajectory of adolescents' lack of meaningful involvement in PSSP research. No known comprehensive guidance of this kind exists.

To enhance meaningful youth involvement in youth mental health research in general, research must move away from a focus of young people engaging in research as passive subjects, towards a view of young people as central to research (MacSweeney et al., 2019). Collated insights on how adolescents perceive their involvement in PSSP research, generated through meta-ethnography, will be pivotal for re-focusing the PSSP research field towards the experiences of adolescents involved in PSSP. Given that meta-ethnography allows for the identification of insights beyond individual studies, potential absences and misinterpretations of knowledge in the literature may be highlighted (Campbell et al., 2011; Noblit & Hare, 1988), which is particularly important to counter adultism in research and the fact that adolescents' perspectives are typically presented through adult lenses in research (Montreuil et al., 2021).

Although evidence does not indicate harmful effects after exposure to suicide research in assessment (Coppersmith et al., 2020), screening (DeCou & Schumann, 2018; Gould et al., 2005), content (Blades et al., 2018); and participatory-based research (Haddad et al., 2020; Robinson et al., 2017; Thorn et al., 2020), risks of harm of researching suicide remains a steadfast barrier for progressing research on suicide prevention (DeCou & Schumann, 2018; The Lancet Psychiatry, 2022), particularly with youth (Ballard et al., 2013; Thorn et al., 2020). Insights from this meta-ethnography are essential to understanding the safety implication of engaging adolescents in PSSP.

There is increasing momentum for understanding the involvement of young people involved in research in wider-health related fields (Sellars et al., 2020). As such, it is expected that the insights from this meta-ethnography will transcend the field of PSSP, given the international calls for enhancing meaningful youth voice and involvement in youth in suicide

prevention (WHO, 2021b), school mental health practice (Simões et al., 2021) and wider-health related research (Patton et al., 2016).

With respect to operational issues, initially adolescents' experiences with and perspectives on PSSP will be synthesised with respect to whether adolescents engaged with PSSP as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers. Data will be fully integrated, similar to the procedure of Evans and Hurrell (2016), provided that *how* adolescents engaged with PSSP is subordinate to the similarities and differences across the studies. Finally, amendments to the protocol will be described in the completed review publication.

CHAPTER FIVE

A meta-ethnography of adolescents' perspectives on and experiences with post-primary school-based suicide prevention

Status: Not published

Contribution: EW contributed to the study as follows:

Identified the research objectives

Led the study concept

Determined search terms, inclusion/exclusion criteria, search strategy and ran the searches

Completed data extraction

Completed meta-ethnographic analysis

Drafting and critical revision of the manuscript for submission for peer-reviewed publication

Aim of Study: To explore and integrate the perspectives and experiences of adolescents engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers, using a meta-ethnographic approach involving reciprocal translations and lines-of-argument synthesis.

Contribution to PhD and State of the Art: Reciprocal translations and synthesis of findings reported in 16 studies (n=~3000) engaging adolescents as end-users, co-creators, and peer helpers generated three overarching constructs as follows: (1) The importance of trust in engagement with PSSP interventions, (2) Different to engaging in school: the importance of how adolescents engage with PSSP interventions, and (3) Sharing of real life experiences important for connection and engagement. Lines-of-argument synthesis interlinks these findings and highlights the central importance of adolescents' trust in and connection with individuals and schools involved in PSSP interventions, for sharing of the self and actively engaging in interventions in meaningful and beneficial ways. Ultimately, when trust, connection, active engagement, and personal experience sharing synergistically occur, PSSP interventions can be transformative and empowering for adolescents. However, given the

ingrained nature of PSSP interventions in school settings, aspects of school contexts can either help or hinder how adolescents engage with interventions. More broadly, the present lines-of-argument synthesis provides a novel narration of the intersection between school contexts and adolescents' experiences with PSSP interventions. These findings address an important gap in understanding how adolescents perceive their engagement with and positioning in PSSP interventions in studies conducted in North America, Europe, Asia, and Australia.

Alignment with PhD programme of research: This review addresses the gap in understanding adolescents' involvement and perspectives on engaging with PSSP interventions identified in chapter 3. The findings demonstrating the important role of both: (1) trust and connection and (2) experiential and agentic engagement in PSSP interventions; as well as the lack of: (1) participatory-based studies and (2) considerations to researcher-participant relationship in the field of PSSP, aligns with the focus of the MYSTORY study presented in chapters 6-7, which engages adolescents in a participatory- and arts-based study conducted within a critical approach, which harnesses experiences sharing, rapport building and youth involvement in creative, meaningful, and empowering ways.

ABSTRACT

Suicide is the fourth leading cause of death in adolescents globally. PSSP interventions are an evidence-based youth suicide prevention strategy, yet PSSP effectiveness does not easily translate to school settings. Adolescents' perspectives on engaging with PSSP are not well

understood but are likely critical to bridging the PSSP evidence-practice gap, given the important influence of adolescents' perspectives on school mental health intervention effectiveness. As such, this meta-ethnography review explores the perspectives and experiences of adolescents engaging with PSSP interventions. The meta-ethnographic approach followed Noblit and Hare's (1988) seven stage process for conducting meta-ethnography and adhered to the eMERGe reporting guidance and the PRISMA statement guidelines. Searches of PsycINFO, MEDLINE, Web of Science, CINAHL, ERIC, Scopus, ProQuest, British Library EthOS, and DART-Europe E-theses Portal identifies journal articles and dissertations. Study quality appraisal was undertaken in duplicate using the CASP checklist. Sixteen journal articles and dissertations were retained for analysis. Adolescents were engaged in PSSP interventions as end-users, co-creators, and peer helpers. Key overarching constructs developed from reciprocal translations and lines-of-argument synthesis highlight the importance of the following aspects of engaging with PSSP interventions: (1) *how* adolescents were engaged in interventions, (2) trust in facilitators, school personnel and the school system, and (3) the sharing of real-life experiences for connection and engagement in PSSP interventions. To our knowledge, this is the first review to explore and integrate the findings of qualitative studies exploring adolescents' perspectives on engaging with PSSP interventions. Understanding and harnessing adolescents' experiences is key for enhancing PSSP intervention effectiveness and implementation. Insights from this meta-ethnography are relevant and widely applicable for broader health-related fields.

INTRODUCTION

Globally, suicide is the fourth leading cause of death in 15-19-year-olds (WHO, 2021c). STBs include SA (i.e., non-fatal and potentially injurious behaviour to oneself with an intent of death) and SI (i.e., thinking about or considering suicide) (Hughes et al., 2023). There are far-reaching

societal impacts of mental health difficulties among adolescents, with a longitudinal study tracking Canadian children to emerging adulthood demonstrating that exposure to a schoolmate's or acquaintance's suicide was a key predictor of SA persisting into adulthood (Geoffroy et al., 2021). Furthermore, while children and adolescents' visits to emergency departments for any health reason reduced during COVID-19, emergency departments visits for STBs increased (Madigan et al., 2023). As such, there is a timely and urgent need for prioritisation of effective and accessible suicide prevention for adolescents.

PSSP interventions are an evidence-based strategy for targeting adolescent STBs (Robinson, Bailey, et al., 2018; Walsh, McMahon, et al., 2022). Traditionally, PSSP comprises of the following levels of preventive strategies: (1) universal (i.e., targeting the wider school population), (2) selective (i.e., identifying at-risk adolescents) and (3) indicated (i.e., targeting STBs among at-risk adolescents) (Goldsmith, 2002). More recently, PSSP interventions include upstream approaches targeting STBs as secondary intervention outcomes alongside other health and well-being outcomes (Walsh, McMahon, et al., 2022). Despite the potential of PSSP interventions to be a key preventive strategy for targeting adolescent STBs, there are long-standing challenges to translating the effectiveness of PSSP research to school settings (Kalafat & Ryerson, 1999; Smith-Millman & Flaspohler, 2019). Furthermore, the uptake of preventive strategies in practice, such as PSSP, is lacking disproportionately in comparison to the research in the wider field (WHO, Reifels et al., 2022; 2018), which reflects persisting evidence-practice gaps with respect to PSSP interventions.

Interventions which have worked in one place too often do not work the same across multiple contexts (Damschroder et al., 2009; Fletcher et al., 2016), particularly in school settings which are complex and dynamic environments (Joyce & Cartwright, 2020). Subsequently, PSSP interventions can have varying effects across different research and practice contexts, which aligns with the premise of realist approaches to understanding

intervention effectiveness (Pawson & Tilley, 1997). Despite the clear need to consider context with respect to PSSP interventions, a lack in consideration to and reporting of macro-, school-, and individual-level contextual factors was identified in the extant PSSP intervention literature, with factors relating to adolescents' experiences with and perspectives on PSSP interventions particularly scant (Walsh, Herring, et al., 2022). Contextual factors relating to adolescents themselves are arguably among the most important for determining the success of PSSP interventions. A systematic review demonstrated that school-based mental health intervention fidelity components linked to adolescents' own experiences (i.e., intervention receptiveness) are among the strongest predictors of postintervention mental health outcomes (Rojas-Andrade & Bahamondes, 2019), which indicates *how* adolescents both perceive and experience school-based mental health interventions is markedly important for interventions to have their desired impacts on adolescent mental health. However, there is remarkably little known about adolescents' experiences of engaging with PSSP interventions.

Ultimately, adolescents' engagement and experiences have been overlooked and underestimated in PSSP intervention research, as well as in the wider school mental health field. For instance, the school-based mindfulness MYRIAD trial sampling over 8000 adolescents did not demonstrate the predicted positive effects on adolescent mental health (Farias, 2022; Montero-Marin et al., 2022; Montero-Marin et al., 2023) and secondary analyses of the MYRIAD trial data revealed: (1) strikingly low participant engagement despite good fidelity, reach and dosage, and (2) lack of benefit of engaging with the intervention for participants with mental health needs (Montero-Marin et al., 2022; Montero-Marin et al., 2023). Half of the participants expressed reservations about the potential helpfulness of the intervention, with some participants (i.e., 10% of those with an elaborated response, 4% of those who answered) reporting psychological distress postintervention (Montero-Marin et al.,

2023). The insights emerging from the MYRIAD trial are indicative of the importance of consideration to how adolescents engage with and perceive PSSP interventions.

Adolescents can engage with PSSP interventions in various roles, including as intervention end-users, facilitators, advisors, and co-researchers. We adapt the following definitions of learning to define how adolescents engage with PSSP; didactic engagement positions adolescents as passive recipients of knowledge from an 'expert' (i.e., receiving expertise from a teacher); experiential engagement fosters self-directed discovery and intends for adolescents to learn from their own experiences in a non-directive manner (Hovelynck, 2002) (i.e., group or reflective activities); and agentic engagement is youth-initiated, proactive, and collaborative action occurring in a motivating and supportive environment, which enables young people to engage in personally relevant and goal-congruent action (Reeve, 2013) (i.e., designing aspects of PSSP interventions). There is little known about the ways in which adolescents engage with PSSP interventions and the implications of their engagement to the outcomes of the PSSP interventions.

Qualitative research exploring adolescents' experiences of engaging with PSSP interventions is important for shedding light on whether PSSP interventions have their intended impacts or not. Moreover, systematic reviews can draw qualitative evidence derived from varying contexts and methodologies together, and can enhance understanding of both intervention effectiveness and implementation, in ways which are accessible to decision-makers (Campbell et al., 2011; Lorenc et al., 2012). Meta-ethnography is an interpretative qualitative synthesis method which can generate novel insights which go beyond the findings of individual studies (Campbell et al., 2011; Mays et al., 2005; Noblit & Hare, 1988); for instance a meta-ethnography exploring young people's experiences of engaging with mental health services following STBs conducted by Gilmour et al. (2019) offered a novel insights regarding the silencing of suicide in clinical conversations and the absence of at-risk groups'

voices from the synthesised studies. Although a meta-aggregation of children and adolescents' perspectives on engaging with universal, depression and/or anxiety prevention interventions focused on insights relating to the most beneficial intervention components and barriers (Bastounis et al., 2017), no experiences with PSSP interventions were synthesised. To our knowledge, no qualitative synthesis of adolescents' experiences with PSSP exists.

Objective

The objective of the present meta-ethnography review is to explore and integrate the perspectives and experiences of adolescents engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers.

METHODS

A published protocol for this review is available outlining the methodology employed in this current review (Walsh et al., 2023a), which is presented in chapter 4. Given the fluidity of the meta-ethnographic process and possibility for changing interests during this process (Campbell et al., 2011) minor amendments to the protocol are reported in Supplementary Table 5.1. The meta-ethnographic approach followed Noblit and Hare's (1988) seven stage process for conducting meta-ethnography and meta-ethnographic procedures (Campbell et al., 2011; France, Cunningham, et al., 2019; Lee et al., 2015). This review adhered to the eMERGe reporting guidance for meta-ethnography and the PRISMA statement guidelines for systematic reviews (France, Cunningham, et al., 2019; Page et al., 2021).

SEARCH STRATEGY

In line with the PEO framework eligible studies: (1) sampled adolescents aged 11–19-year-olds in line with existing definitions of adolescence (WHO, 2021a), engaging with PSSP interventions as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers, (2) included interventions conducted in post-primary schools targeting suicide-related outcomes, including STBs, as both primary and secondary intervention outcomes, and

(3) reported adolescents' perspectives on and experiences of engaging with PSSP interventions. Other inclusion criteria included: (1) English language studies, (2) peer-reviewed journal articles and grey literature, and (3) qualitative and mixed-method studies reporting qualitative methods and analysis. Studies were excluded for not reporting primary qualitative research and sampling participants engaging with PSSP located in third-level education or university settings.

In April 2022 and again in January 2023, PsycINFO, MEDLINE, Web of Science, CINAHL, ERIC, Scopus, ProQuest, British Library EthOS, and DART-Europe E-theses Portal were searched to identify studies and grey literature published from database inception until September 2022, using search terms based on the following concepts: adolescents, school, prevention, suicide, and perspectives. To capture studies which sampled 11-19-year-olds, 'child' was included as a keyword. Table 4.1 in this thesis details the search terms used. Database searches were supplemented by searches in Google Scholar and in reference lists of identified studies. EW assessed study eligibility based on title and abstract. Full texts of eligible studies were assessed in duplicate by EW and JMM using Rayyan (Ouzzani et al., 2016). Full text inclusion decisions were based on agreement between EW and JMM and disagreements were discussed until consensus was reached. Cohen's Kappa coefficient (Cohen, 1960) indicated adequate agreement on original full-text screening yes/no decisions by JMM and EW (κ=.69, p<.001).

SEVEN STAGE PROCESS FOR CONDUCTING META-ETHNOGRAPHY

Stages (1) and (2) (Getting started and Describing what is relevant to the initial interest, respectively) have been previously outlined in chapter 4 and in the introduction section in this present review.

STAGES (1) GETTING STARTED

Given that young people's experiences are presented through adult lenses in research (Montreuil et al., 2021), a qualitative synthesis methodology, such as meta-ethnography, which can generate novel insights and identify absences or obscurities in knowledge (Campbell et al., 2011; Mays et al., 2005), is a particularly suitable qualitative synthesis methodology to address the research aim.

Stages (2) Describing what is relevant to the initial interest

The employment of the search strategy procedures achieved the end-goal of stage 2 to identify studies to be retained in the meta-ethnographic review (Noblit & Hare, 1988).

Stage (3) Reading included studies

Reading the identified studies involved re-reading and active reading of study data through annotation and coding of constructs. Data relating to adolescents' perspectives on and experiences with PSSP including first-order constructs (i.e., participants' quotations) and second-order constructs (i.e., study authors' insights) from the result and discussion sections of studies were extracted. Where studies also explored the perspectives and experiences of adults (i.e., school personnel and adults) only data relevant to adolescents were extracted. Other information from studies were also extracted, including study, participant, and intervention characteristics (see Table 5.1). There was 88.46% proportion agreement (Gisev et al., 2013) between the original data simultaneously extracted from three studies by EW and a second reviewer.

Stage (4): determining how the studies are related

Firstly, first- and second-order constructs within studies were line-by-line coded based on *a priori* coding frame using NVivo12 software, which organised constructs according to *how* adolescents were engaged in PSSP interventions (i.e., as end-users versus peer helpers). From herein we refer to these codes as concepts. Prominent concepts and within-study relationships between concepts were identified. Between-study comparison of concepts and

within-study relationships led to the development of initial conceptual categories representing common and reoccurring concepts sharing underlying central ideas and metaphors. These processes were iterative in nature and involved re-reading and re-fining concepts and their relationships with one another within and across studies. Furthermore, these iterative processes revealed that: (1) *how* adolescents engaged with PSSP interventions was subordinate to the relationships across studies and therefore, data was fully integrated to represent adolescents' experiences generally, similar to procedures by Evans and Hurrell (2016), and (2) study characteristics and findings largely related to each other reciprocally. Studies were organised based on the presence or absence of the conceptual categories for analysis. Study characteristics including research design, intervention characteristics, and participant characteristics were subject to cross study comparison.

Stage (5): Translating the studies into one another & Stage (6): synthesising translations

Stages (5) and (6) were interweaving, with resulting translations and synthesis iteratively engaged with. EW led data analysis and JMM provided guidance and critique during the process, to collaboratively develop meta-ethnographic interpretations. Reciprocal translation enabled the making sense of the data through the direct translation of similar concepts within the grouped studies into each other through a process of constant comparison, while retaining the characteristics of the studies. This process resulted in third-order (i.e., review authors) rounded constructs comprised of concepts embodying multiple concepts. Furthermore, findings were further abstracted, linked and interpreted to develop a broader interpretation of the constructs which goes beyond the narratives reported in the individual studies, which are represented in a lines-of-argument synthesis (Campbell et al., 2011; Noblit & Hare, 1988; Toye et al., 2014).

Stage (7) Expressing the synthesis

This meta-ethnography is currently being prepared for submission to a peer-reviewed Q1 journal which focuses on adolescent mental health. It is intended that key findings from the meta-ethnography will be presented to academic and non-academic audiences.

STUDY QUALITY APPRAISAL

Study quality appraisal was conducted using CASP checklists (CASP, 2013), which were undertaken in duplicate by EW and a research assistant. Disagreements in original CASP checklists between EW and the research assistant were discussed until consensus was reached. Amendments made to the CASP checklist to enhance suitability of the checklist to our study are previously detailed in chapter 4.

RESULTS

CHARACTERISTICS OF RETAINED STUDIES

Sixteen studies published between 2010-2022 were retained (Figure 5.1 outlines the screening strategy). Table 5.1 summarises the findings from the retained studies. Studies were mostly journal articles, and three studies were dissertations (Hudson, 2016; Quinn, 2019; Robertson, 2008). The study quality assessments are presented in Table 5.2.

Studies sampled approximately 3000 participants (not all studies reported exact sample size). For studies reporting age, participants were aged between 12-19 years of age. Most studies included mixed gender samples, except for a study which sampled only males which evaluated a male-targeted intervention called Silence is Deadly (Calear et al., 2021); three studies did not report gender (Klim-Conforti et al., 2022; Ohlmann et al., 2014; Wexler et al., 2017). Studies were mostly conducted in North America (8/16), Europe and Asia (each 3/16), and Australia (2/16). 7/16 studies explored adolescents' perspectives on PSSP interventions in samples containing a combination of both adolescents and adults (typically school personnel).

Most qualitative analyses of adolescents' experiences and perspectives were explored as part of studies evaluating interventions using mixed method approaches (11/16 studies).

Most (10/16) studies collected data via focus groups, with surveys (5/11) and interviews (6/16) also being employed as data collection strategies. Three studies employed more than one of these data collection approaches (Chartier et al., 2022; Ohlmann et al., 2014; Zachariah et al., 2018).

PSSP interventions contained the following levels of preventive strategies: (a) universal (12/16 studies), (b) selective (4/16 studies) and (c) indicated (3/16 studies). SOS was the most commonly cited intervention among the retained studies; one study evaluated the SOS middle school program (Hudson, 2016), the universal program evaluated by Chaniang et al. (2019) was built on previous programs including SOS and Mirick and McCauley (2022) evaluated virtual SOS in middle and high school students, a universal synchronous online program. 7/16 studies included interventions which focused on peer support.

Table 5.2

Summary of Study Characteristics and Findings for Retained Studies

Authors	Sample	Intervention	Study Aim & Methods	Key study categories/themes	Key meta-ethnographic concepts
Braun et al. (2021a)	Vienna, Austria. *N*=17[a] aged 15-19 years (*M*=16.4 years) 72.2% female. Co-creators of suicide prevention videos.	Creation of suicide prevention videos as part of an elective Suicide Prevention module. Personal experiences with crisis situations & coping strategies were also discussed & reflected on. Videos were presented to school personnel, parents & students at an evening event. Some videos would be later tested in a randomized controlled trial & used by suicide prevention organizations targeting youth).	Aim: to explore adolescents' experiences of producing suicide prevention videos targeting other adolescents in a school setting using a participatory qualitative research approach. All participants interested in engaging with module were accepted for participation. Documentary method analysed data collected using focus groups.	Findings were clustered into five categories based on the four topics predefined for the interview guide (one additional category was identified during analysis): (1) Experiences During the Production Process Benefits; (2) Challenges Learning Effects, (3) Content of the Videos and Underlying Ideas, (4) Opinions on the Possible Effects of the Videos & (5) implications for Suicide Prevention	Important for co-creators to create videos that were relevant to adolescents Appreciation for active involvement in the project Pride in the created videos Enhanced knowledge of STBs and associated stressors Personal growth linked to engagement in the project Appreciation for combining mental health and arts-based methods
Calear et al. (2021)	Australian Capital Territory. *N*=222[a] aged 16-18 years, grades 11 & 12. All male.	The Silence is Deadly is an upstream, public health program which addresses knowledge, attitudes & norms purported to impact on help-seeking behaviour for emotional problems & suicide. The psychoeducational program is delivered according to Menslink's usual procedures & incorporates a presentation, website, videos, handouts & incorporates male role modelling & social norming. Key statistics about mental health, suicide, help-seeking &	Aim of qualitative component: to assess satisfaction with the program & explore the impact of the intervention on school culture. Framework analysis approach of data collected via survey.	No overarching categories reported. Mostly positive feedback on the program, **s**ome students did not enjoy the program. Participants found the program engaging, informative & easy to understand. Participants with similar mental health experiences to those described by the presenters connected to the presenters, conversely participants who did not share these experiences/ interest in sports did not relate as well to the presenters.	Appreciation for personal stories related to mental health Lack of similar experiences between participants and presenters hindering relatability of presenters

		links between masculine norms & help-seeking are presented & discussed. It is delivered in partnership with trained local celebrity athletes, who appear as guest presenters & are included in a video speaking about their experiences.		Participants wanted more & a variety of personal stories	
Chaniang et al. (2019)	Chiang Mai province, Thailand. *N*=30 & 12 Core Working Group who were peer leaders who collaborated to develop & implement the program. Grades 7-12[b].	This universal program aimed to prevent suicide & was built on previous programs (i.e., Lifeline Program & SOS) & the contents, strategies & activities were based on needs assessment & action research framework. The overarching study comprised of 3 phases: (1) situational analysis of school suicide prevention, interviews with parents/ teachers & focus group discussions with students, (2) collaborating with an adolescent Core Working Group to design & implement the program, including conducting a campaign of suicide prevention in school & revising the plan until the program was appropriate for the school context. Additionally, a family nurse conducted training sessions with parents on topics including adolescent development, parenting styles & parent-teen communication	Aim of qualitative component: to evaluate a pilot suicide prevention program & evaluate the feasibility & appropriateness. Action research design. Thematic analysis of data collected using focus groups.	Analysis resulted in two themes & two sub-themes: (1) Improving suicide knowledge and attitudes & (2): It's such a great campaign (sub-theme 1: It's feasible & sub-theme 2: It's appropriate)	Enhanced confidence and leadership skills from engaging in the peer leader group Appropriateness of the intervention for participants and schools Peer leaders' improved knowledge and attitude towards STBs

		& a mental health nurse conducted a seminar on counselling with teachers. Adolescent Peer Leaders' module (i.e., adolescent peer leaders' enhancement & awareness for suicide prevention & fostering mutual support by adolescent peer leaders). An "edutainment" approach was used (i.e., games, role playing, and video clips). Parents' & Teachers module (i.e., suicide prevention awareness & education & fostering mutual support by family) (3) the program was evaluated.			
Chartier et al. (2022)	Manitoba, Canada. *N*=30. 6 boys, 24 girls.	PAX Dream Makers is a youth-led addition to PAX-GBG (an evidence-based programme suicide prevention program), which engages middle & high school students to create peace, productivity, health & happiness in their schools & communities. It applies the strategies of PAX-GBG to support & empower Indigenous adolescents. This approach included special training through youth gatherings & ongoing support for youth & adult mentors to develop leaderships skills & enhance their understanding of the PAX-GBG programme. Dream Makers Gathering	Aim: To examine youth perspectives on the PAX Dream Makers approach. Case study design. A line-by-line thematic analysis of data collected via focus groups & one on one interviews.	Findings were organised into the following themes, many of which were determined in advance based on the interview: (1) Positive influence of Dream Makers approach on youth, (2) Dream makers gatherings: strengths and suggestions, (3) Qualities of good mentors, (4) Challenges and suggestions to the PAX dream makers approach and (4) Empowerment through culture (sub-themes: Community context & Strengths and challenges to PAX-GBG implementation).	PSSP positively impacting on adolescents Importance of having good adult mentors for intervention success

		comprised of youth & adult mentors learning about PAX-GBG, youth creating a vision for their schools & communities, youth sharing their school & community visions & accomplishments while developing confidence & trust in each other & in their abilities & mentoring new Dream Makers with guidance from the PAX-GBG trainers.			
Hudson (2016)	Boston, US. *N*=10 (a sample of participants who do not report changes in knowledge, attitude and/or behaviour). Grade 7. 55% female[b]	The middle school version of the SOS program aims to reduce suicidal behaviour by increasing adolescents' understanding of & ability to promote more adaptive attitudes toward depression & suicidal behaviour. Participants are taught ACT in the suicide awareness curriculum. In the didactic component, participants are taught to recognize signs of suicidality & depression in themselves and others. Participants are taught the appropriate action steps for responding to those signs. Curricular materials consist of a discussion guide and a video, the latter which includes dramatizations that portray the signs of suicidality & depression and the appropriate ways to react to someone who	Aim of qualitative component: To investigate the shortcomings of the SOS program for participants who do not report changes in knowledge, attitude and/or behaviour? Mixed methods. Consensual Qualitative Research analysed data collected from one-to-one interviews.	The findings were organised into the following categories: (1) Helpful/positive, (2) Redundant, (3) Coping, (4) Real events, (5) Subtlety and (6) Other constructive feedback	Lack of intervention content which guides individuals on how to help themselves Intervention contained information already known to the participants Desire for content relevant and real to life Perception that adolescents may not take aspects of the intervention seriously

		is exhibiting these signs. The video also includes testimonials from people whose lives have been affected by suicide. The SOS program also includes screening students for depression & suicide risk & subsequent referral for professional mental health support.			
Laboulie re et al. (2015)	Southwest, United States. (*N*=58). 47% took part in the gatekeeper training). 9th-12th grade[b]. 46.8% male.	The Jason Foundation "A Promise for Tomorrow" gatekeeper prevention program promotes awareness of youth suicide, provides participants with the knowledge & resources to interact with at-risk youth & develops positive attitudes toward referring at-risk peers. The training sessions were facilitated by teachers/counsellors during health classes & were overseen by school mental health personnel.	Aim of qualitative component: To enrich interpretation of quantitative results. Participants were randomly selected from the sample of the large evaluation study. Mixed methods approach. Data from focus groups were transcribed & responses were coded for themes.	No overarching themes reported. 64.5% of trained participants reported that recognition of suicidality in their peers remained difficult. Training had positive effects on participants' confidence regarding talking with a suicidal peer. 45% of trained participants felt the program was informative, 53% reported that aspects of the program could be improved. Common recommendations for program improvement included having more interested & knowledgeable trainers in suicide prevention, enhancing program information & materials clarity, concreteness, and depth, increasing the frequency & degree of interaction (e.g., role plays, small group discussion) & updating the material with more ethnically diverse actors &	Recommendations for intervention materials containing more relevant settings and situations Recommendation for more experiential activities Recommendation for trainers who are more interested and knowledgeable about suicide prevention Perception that the intervention did not provide knowledge on how to support friend experiencing STBs Intervention would benefit from smaller group discussions

				current settings & situations. Generally, youth participants preferred program components that more closely approximate real-life settings in which they might be called upon to apply suicide prevention knowledge	
Johnson et al. (2021)	Melbourne, Australia. N=979. *M*=15.82 years. Year 10. Female=43.94%.	TeenMHFA is an universal program which trains participants to support their peers who are experiencing a mental health problem or crisis (i.e., suicidal behaviours, bullying). The program was originally developed from findings derived from a large Delphi consensus study involving youth mental health experts & young people with lived experience during their senior school years investigating the provision of mental health first aid. The program meets the need for adolescents to be empowered to support their peers Content is delivered in three 75-min training sessions by an accredited & trained MHFA instructor. The classroom-based program is supported by audio–visual presentations, a student workbook, group activities & role plays. Facilitation of the program is manualized & all program	Aim of qualitative component: to augment existing quantitative findings by analysing qualitative feedback on the TeenMHFA program provided by students at host schools, and to describe the experiences & opinions of participants through qualitative analysis of open-ended student responses to online survey. Mixed methods. Generalized content analysis, then a more detailed thematic analysis analysed survey data.	See Table II in Johnson et al (2021) for content analysis categories. Findings were organised into the following themes relating to the strengths of the program: (1) connection with personal stories through visual media, (2) relevance of the practical nature of the course and (3) helping to promote mental health understanding and awareness. Themes related to weaknesses include: (1) student engagement and (2) student participation and 'buy-in', and two themes for improvements: (1) more interaction & hands-on activities & (2) include student discussion and viewpoints.	Facilitators' openness regarding mental health and suicide which is normally considered out of bounds in school Hearing others lived experiences leading to connection Recommendations for more adolescent lived experience sharing Discussion of mental health topics during the intervention

		materials have been refined with input from students, adolescents with lived experience of mental illness, educational experts & teachers.			
Klim-Conforti et al. (2022)	Toronto, Canada. *N*=60 (end-users). 12-14 years. Grade 7 & 8.	The 3-month universal, teacher-led program CBTSI aims to increase emotional regulation, resilience, and distress tolerance. While reading "Harry Potter and the Prisoner of Azkaban," students engage in discussion about key learning objectives (i.e., identifying risk and protective factors, basic cognitive restructuring techniques, behavioural interventions to improve mood, and promoting help-seeking behaviour should these skills fail to improve distress tolerance. Students learn to recognize how depression and anxiety manifest in the characters in the novel & additional exercises augment student learning through a discussion of the symptoms, behaviours, & thoughts to recognize depression and anxiety in themselves and others.) Private workbooks, lessons (& a corresponding manual) Suicide will not be	Aim of qualitative component: to understand barriers & facilitators to engagement with the CBTSI. This mixed methods study draws on programme evaluation with a pragmatic approach. Analysis was informed using principles of pragmatism. Thematic analysis of focus group data.	Five themes & fifteen constructs were identified: (1) Confidence and self-compassion, (2) Awareness, (3) Relationship to self and system, (4) Sense of community, and (5) Teaching and learning.	Trust resulting from developing connection during group activities Experiential engagement leading to positive experiences engaging with the intervention Importance of perceiving teachers as at ease with presenting the intervention for participant engagement Teacher-student relationships and mental health focus in schools influencing intervention engagement Desire for greater discussion of real life and relevant experiences

		mentioned in the intervention, apart from a brief note that suicidal ideation can be a symptom of depression. Differentiated instruction modifies the learning experience to address the needs of participants who learn differently (i..e., adjusting content, exercises and practices and assessments.			
Mirick and McCauley (2022)	USA. *N*=1,196. 6th–8th (middle), 9th–12th (high). Female=654 (54.7).	Virtual SOS is a universal synchronous online program created in consultation with national suicidology & mental health experts. A school staff member delivered SOS to participants during classtime and participants logged onto video conferencing technology & attended the class from home. Virtual SOS differed in several ways from the in-person mode, including: (1) there was no screening component, (2) a web-based student response slip was developed, which allowed participants to submit their slip immediately following class, so that school staff had real time access to students' responses and could provide the necessary support, screening & referrals.	Aim of qualitative component: to investigate: (1) if virtual SOS acceptable to middle & high school students? (2) How do middle & high school students perceive virtual SOS compared to in-person SOS? And (3) Are there differences in acceptability of virtual SOS between at-risk students (those who used SOS to ask for help for themselves) and students who are not at-risk? Mixed methods. Survey. Thematic analysis.	Themes are presented in tables 2, 3 & 4 under the following three headings: (1) Comparison of Virtual to In-Person, (2) Recommendation to Continue Virtual SOS, & (3) Ways to Improve Virtual SOS"	Mixed perceptions on in-person or virtual modes of delivery Perceived discomfort in class-level discussions of suicide and self-harm topics Recommendation to include more broad discussions and self-reflection Recommendation to include more realistic and relevant examples

Ohlmann et al. (2014)	British Columbia, USA. *N*=5, 15-18 years.	The *Alive* group is an indicated youth-led suicide prevention education group for at-risk youth, with participants choosing the focus of suicide prevention. The *Alive* group involved the participants supporting one another and gaining skills and knowledge relating to mental health issues. Ultimately, the aim of the group was for participants to become literate in mental health issues, recognizing the signs of emotional distress & developing the skills needed to reach out to peers. The participants elected to create a presentation based on the "Ask, Assess, Act" model for other students, to teach other young people how to recognize signs of suicide risk in themselves & in peers.	Aim: to explore the insider accounts/experiences of the participants & to explore how resiliency was fostered through adolescents' experience of a suicide prevention & education program. Listening Guide analysis of data collected from Focus groups & one-to-one interviews.	Analysis was organised into two overarching themes which contained sub-themes: (1) Voices of Vulnerability (Voice of not knowing, Voice of disconnection, Voice of silence & Voice of literal silence, and (2) Voices of Resilience (Voice of knowing, Voice of literal knowing, Voice of connection, Voice of altruism, Activist voice & Voice of protection).	Developing trust with others involved in the intervention facilitated sharing of experiences Developing a sense of connection and belonging during the intervention Pride and enjoyment in sharing insights with schools Engaging in the intervention leading to enhance confidence and agency among participants Personal story sharing leading to connection and empowerment with the group
Quinn (2019)	Ireland, Dublin. *N*=13, 10 females, 3 males. Median age was 13 years[b] 2nd year.	The Resilience Academy program has a resilience-focused approach informed by CBT & DBT & is aimed at equipping participants with practical information & techniques to facilitate emotional & cognitive resilience. The program's development was informed by evidence synthesis findings,	Aim of the qualitative component: to explore participants' personal experience of the program & analyse the meaning of change, the processes responsible for change & any recommendations for future programme development & implementation. Mixed methods design (randomly	The findings are presented in the following themes & sub-themes: (1) A Positive School Experience (subthemes – Different to class, Opportunity to reflect and discuss), (2) Peer Connection (subthemes – Collaborative learning, Openness versus Anonymity), (3) Learning How to Cope (subthemes – Adaptive coping,	Experiential engagement in the intervention different to typical engagement in the classroom Peer interaction and connection facilitating intervention engagement Positive experiences with sharing of and listening to stories and real-world experiences

		industry experts and interviews with students and school staff in similar contexts to the one in which the intervention was evaluated. The upstream & universal program is facilitated by mental health professionals. Students initially learn about resilience, mental health & coping techniques. Participants choose from four modules (i.e., school stress & mental health) covered through discussion & activities. Handouts, story vignettes, slides, posters & videos are utilised by facilitators.	selected). Focus groups. Thematic analysis.	Skills attainment) & (4) Student Recommendations (The Student Voice) (subthemes – Programme planning & Programme content)	Recommendations for more opportunities to reflect on and discuss mental health topics
Roberts on (2008)	Southern Illinois. *N*=82. Aged 14-18 years (*M*=15.33). Grade 9, 10, 11 & 12. 15 Male, 85 Female [b]	LifeSavers peer-helper training program is a peer-support, suicide & crisis-prevention training program, which involves training participants to be LifeSavers during a weekend retreat & continued training & support from school advisors. Participants are recruited to be LifeSavers through school presentations, staff/faculty recommendations & an essay detailing their interest & skills. Participants are selected if they show evidence of being trustworthy, open-minded, caring, respectful, responsible, & exhibits natural helper & leadership qualities.	Aim of the qualitative component: to explore the training's impact, self-rated stress & suicide exposure. Mixed methods approach (participants who completed the surveys' qualitative items were included). Survey. Content analysis.	Data was coded into the following categories: (1) Life-changing experience, (2) Emotional well-being, (3) Self-confidence, (4) Self-awareness, (5) Openness/Trust, (6) Helping/Listening skills, (7) Other-awareness/ Perspective-taking, (8) Home/Parent relationships, (9) Peer relationships, (10) General/Other relationships & (11) Education/ Suicide knowledge	Intervention engagement enhancing trust in participants and others more generally Engaging with PSSP as a peer helper leading to improved helping and listening skills Personal experience sharing leading to personal development and connection

Shinde et al. (2017)	Bihar, North India. *N*=42, 13-18 years. Grades 9 & 10.	SEHER is an universal, whole-school health promotion intervention which targets school climate to promote adolescent health & wellbeing. SEHER activities include awareness generation activities, wall-magazine, competitions, speak-out box, school health promotion committee and health policies), peer groups and workshops. Individual-level supports include counselling & referral. SEHER aims to reduce substance use, sexual risk behaviours, bullying & violence, depressive symptoms.	Aim of the qualitative component: to gather youth perspectives about the intervention components & its delivery & to identify the gaps & improvements needed. Mixed methods (schools were purposely selected based on high/low coverage of intervention activities). Focus groups. Thematic analysis.	The following analytical themes & subthemes were employed to the data (relevant to qualitative data related to young people are presented here): (1) Acceptability & (2) Feasibility (Facilitators to intervention delivery, barriers to individual-level activities).	Enjoyment of and recommendations for experiential activities Discomfort in confiding in teachers regarding sensitive issues Approachability of intervention facilitators important for engagement
Wasserman et al. (2018)	Estonia, Italy, Romania, & Spain. *N*=32, 15-17 years. 16 male & 16 female	The YAM programme is a universal intervention which promotes increased knowledge about mental health. YAM comprises of role-play sessions with interactive workshops & educational posters/booklets. It covers various mental health topics (i.e., depression & suicide). Youth input informs the intervention content & reflection is encouraged.	Aim: to have participants to speak about the YAM & mental health & understand their experiences with and thoughts on the YAM. Qualitative study (as part of a wider mixed methods study). One-to-one interviews were conducted (participants were randomly selected from the largest participating YAM schools in each country). A focus group & informal discussions with adolescents helped improve the format of the interview, including question development and	The following themes & sub-themes were identified: The YAM experience: (engaged: Recognizing emotions) Initially hesitant (Life experiences), eager to please (Positive feedback), Cautious (Not in front of others) disengaged (Indifferent perhaps).	Positive experiences engaging in experiential activities during the intervention Positive experiences of listening to and sharing personal experiences and stories Experiential activities facilitating personal story sharing Recommendations for more lived experience sharing

			language used. Grounded theory.		
Wexler et al. (2017)	Alaska, United States. *N*=28 youth leaders & at least 10 youth captains. Youth leaders who participated in focus groups were mostly female. Cohort 1 = 6 (50%) female Cohort 2 = 12 (75%) female.	Youth Leaders Program is a health intervention which targets youth suicide by reducing related risk factors (i.e., substance abuse & bullying) & increasing protective factors (i.e., school engagement and cultural identity). A 20-year partnership between communities and a university researcher relied on relationships and local guidance to steer the program evaluation. Youth leaders organize & host a variety of informational & recreational activities for students & their families, as well as assisting students. Youth leader captains are student leaders selected by peers & advisors from the participating youth leaders, who have at least one prior year's experience in the program & have shown interest in & aptitude for leadership – they assist youth leaders. Prior to data collection, several youth leaders and other stakeholders involved discussed expected outcomes & the evaluation approach.	Aim of the qualitative component: to better understand how the program was being implemented across the district. Mixed methods approach. Grounded theory coding of data collected via focus groups.	The following categories related to young people were presented: (1) Youth leaders' perceptions from focus groups, (2) Linkages Made Between Youth Leaders Program & Suicide Prevention & (3) Challenges Documented Through Focus Groups & Interviews with youth leaders & youth leaders advisors.	Helping others a beneficial outcome of the intervention Positive experiences hosting activities as part of the intervention Enhanced maturity from engaging with the intervention

Zachariah et al. (2018)	India – Pune, Maharashtra. *N*=76. 12-15 years. 56 boys & 20 girls	The SALT approach & dream building were adopted in the peer education program module. This peer educator program is focused on creating an effective network of volunteers who are compassionately engaged with their direct environment mainly their school peers. This process is guided by professional psychologists and trained adult volunteers. Throughout the year, peer educators come together weekly under the guidance of adult volunteers in their own school to learn, openly share, and support each other. Key elements include: (1) theoretical framework for peer educator program—Human capacity for response and Community life competence program, (2) Role of a Peer Educator, (3) Self-Care (Mindfulness and EFT), (4) Active Listening, (5) Understanding Suicide, and (6) Ways to Respond.	Aim: to explore the impact of peer educator programs on the social, emotional, cognitive, behavioural & attitudinal changes among voluntary peer educators in the context of suicide prevention in India. The authors were interested in understanding the changes participants underwent. Or the recruitment of PE volunteers, information was sent out to students and parents, inviting them to a presentation, which was held in the schools. Letters of consent were obtained from each participating PE volunteer & their parents. Open & axial coding approach was used to analyse data collected from focus groups, one on one interviews & survey.	Themes which are related to the expected outcomes of the program, also known as direct effects & themes which were less anticipated, or indirect effects	Personal development from engaging with the intervention Increased sense of agency from engaging in PSSP The intervention providing a space for participants to connect, share experiences and support one another

Note: ACT= Acknowledge, Care & Tell. CBT= Cognitive-Behavioural Therapy. CBTSI=Cognitive Behavioural Therapy Skills Intervention. DBT=Dialectical Behaviour Therapy. EFT=Emotional Freedom Technique. PAX=Good Behaviour Game. PE = Peer Education. SALT= Support, Appreciate, Listen & Team. SEHER=Strengthening Evidence based on scHool-based intErventions for pRomoting adolescent health programme. SOS=Signs of Suicide. TeenMHFA=Teen Mental Health First Aid. YAM=Youth Aware of Mental Health Programme. [a]=Number of participants who took part in the qualitative data collection process. [b]=Reported for overall sample

Table 5.3

CASP Checklist Scores for Retained Meta-ethnography Studies

Authors	**Section A: Are the results of the study valid?**					**Section B: What are the results?**			**Section C: Will the results help locally?**	**Additional Question: Are the interventions of interest clearly described?"**
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
Braun et al. (2021a)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calear et al. (2021)	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes
Chaniang et al. (2019)	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Chartier et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hudson (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labouliere et al. (2015)	Yes	Yes	Yes	Yes	Yes	No	Can't tell	Yes	Yes	Yes	Yes
Johnson et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Klim-Conforti et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mirick and McCauley (2022)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Ohlmann et al. (2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quinn (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

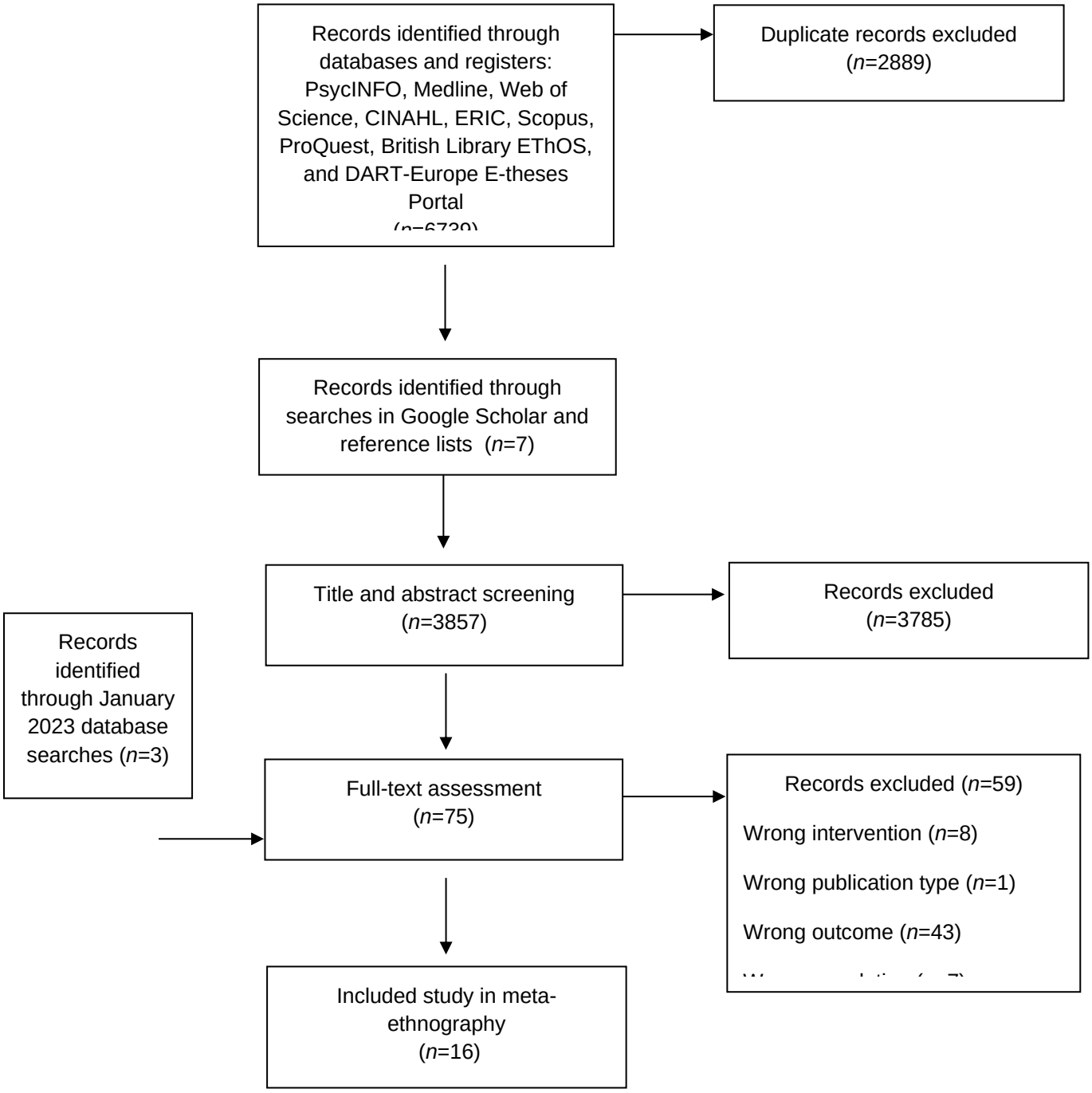
Robertson (2008)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Shinde et al. (2017)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Wasserman et al. (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wexler et al. (2017)	Yes	Yes	Yes	Yes	Yes	No	Can't tell	Yes	Yes	Yes	Yes
Zachariah et al. (2018)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

Most studies evaluated interventions which targeted STBs through risk and protective processes and health and well-being outcomes; for example the Silence is Deadly program targeted knowledge, attitudes and norms purported to impact on help-seeking behaviour for STBs (Calear et al., 2021); the Resilience Academy targeted resilience, mental health and coping techniques and incorporated a suite of modules for adolescents to select from, including body image, bullying and school stress; and the Youth Leaders Program targeted risk factors (i.e., substance abuse & bullying) and protective factors (i.e., school engagement and cultural identity). Two interventions addressed school-level targets, including school climate and community (Chartier et al., 2022; Shinde et al., 2017).

Adolescents were mostly engaged as end-users/recipients of PSSP interventions (11/16). Three studies engaged adolescents as peer helpers who helped to identify suicide risk among adolescents (Labouliere et al., 2015; Robertson, 2008; Zachariah et al., 2018). Adolescents were engaged as co-creators in three studies; in a participatory study adolescents co-created suicide prevention videos (Braun et al., 2021a), in a youth-led suicide prevention education group for at-risk adolescents led the co-design and co-creation of a suicide prevention intervention and in an action research design study (Chaniang et al., 2019) peer leaders collaborated to develop and implement a universal suicide prevention programme as part of a Core Working Group.

Figure 5.1

Meta-ethnography PRISMA 2020 Flow Diagram



SYNTHESIS AND ANALYSIS

Reciprocal translations and synthesis generated the following three overarching constructs; 'The importance of trust in engagement with PSSP interventions', 'Different to engaging in school: the importance of how adolescents engage with PSSP interventions' and 'Sharing of real life experiences important for connection and engagement'. Table 5.3 outlines the retained studies supporting each construct. Key meta-ethnographic concepts are reported for each of the retained studies in Table 5.1.

Table 5.3

Retained Studies Contributing to the Generation of the Overarching Key Constructs

Author	***Sharing of real life experiences important for connection and engagement***	**Different to engaging in school: the importance of how adolescents engage with PSSP interventions**	**The importance of trust in engagement with PSSP interventions**
Braun et al. (2021a)	X	X	X
Calear et al. (2021)	X		
Chaniang et al. (2019)		X	
Chartier et al. (2022)			X
Hudson (2016)	X		
Labouliere et al. (2015)	X	X	X
Johnson et al. (2021)	X	X	X
Klim-Conforti et al. (2022)	X	X	X
Mirick and McCauley (2022)	X	X	X
Ohlmann et al. (2014)	X	X	X
Quinn (2019)	X	X	X
Robertson (2008)	X		
Shinde et al. (2017)		X	X
Wasserman et al. (2018)	X	X	X
Wexler et al. (2017)		X	
Zachariah et al. (2018)	X		X

THE IMPORTANCE OF TRUST IN ENGAGEMENT WITH PSSP INTERVENTIONS

This construct conceptualises the importance of trust in participants' engagement with PSSP interventions. Trust was a concept which was both explicitly reported on and inherently important for participants' engagement in several of the retained studies. Given the sensitivity of suicide and mental health related topics and the associated challenges to engaging with these topics (Braun et al., 2021a; Klim-Conforti et al., 2022; Mirick & McCauley, 2022; Shinde et al., 2017), it is unsurprising that trust in: (1) individuals in and aspects of school settings and (2) intervention facilitators, was integral for engagement in PSSP.

Trust in aspects of the school context, including school personnel, peers, and wider school system, was inextricably linked to how PSSP interventions were perceived by participants. Trust in teachers was important in studies which included both teacher-delivered and external facilitator-delivered interventions. In two studies where teachers delivered interventions (Klim-Conforti et al., 2022; Shinde et al., 2017) participants described student-teacher relationships which were marked by a lack of trust, which resulted in participants reporting hesitation in reaching out to teachers during PSSP interventions. Furthermore, participants in Klim-Conforti et al. (2022) study reported that it would be easier to confide in a professional in comparison to a teacher, as there would be less perceived judgement. Similarly, participants reported their preference for having external facilitators delivering the intervention in comparison to teachers in two studies which evaluated external facilitator-delivered interventions, the RA (Quinn, 2019) and the YAM (Wasserman et al., 2018) with

reasons provided including that external facilitators are: (1) more respected (Wasserman et al., 2018), (2) are trained in the relevant topics, and (3) ensure that participants have opportunities to contribute during the intervention (Quinn, 2019). Furthermore, Wasserman et al. (2018) reported that participants did not talk to teachers about their mental health given the role of a teacher in grading and the lack of opportunity to do so, suggesting that these participants perceived teachers as having competency in academic tasks (i.e., grading) in comparison to providing mental health support.

Moreover, trust and confidence in the ability of intervention facilitators (including external facilitators and teachers) to deliver PSSP was integral to how participants perceived PSSP interventions. Teen Mental Health First Aid was delivered by external facilitators who were largely perceived to be 'open' about mental health and suicide. Johnson et al. (2021) acknowledged that the participants' experiences largely depended on which facilitator was presenting the intervention. One participant shared how having a facilitator presenting the Teen Mental Health First Aid in an open manner made it easier to engage with the intervention: "I think the way they approached everything and how they didn't tiptoe around issues made it easier to learn and understand." (Johnson et al., 2021). Similarly, in Labouliere et al. (2015) and Chartier et al. (2022) it was important for participants that the intervention facilitators were knowledgeable and skilled in delivering PSSP. Conversely, a perceived lack of comfort in facilitating teachers (Klim-Conforti et al., 2022) and participants themselves (Shinde et al., 2017) hindered participants' engagement with PSSP interventions.

Furthermore, trust in peers also partaking in PSSP interventions was integral for participants' engagement. Participants developed trust with peers from interacting during the interventions (Klim-Conforti et al., 2022; Ohlmann et al., 2014; Robertson, 2008; Zachariah et al., 2018). Working in peer groups appeared to facilitate this building of trust and interaction, and beyond these studies, working in small groups was nonetheless recommended (Johnson et

al., 2021; Labouliere et al., 2015). Positive experiences of engaging with PSSP due to a sense of trust fostered by interacting in small groups is conveyed in the following excerpts:

> The impact the LifeSavers training had on me was my trust in others. In the listening circles, I didn't know if I could just trust a strange group of people. As the activities went on, I was able to trust them. I actually trust my group more than my friends. (Robertson, 2008)

> We completed the Harry Potter intervention at the beginning of the year and not everyone knew each other or were really close, I guess you could say, but because we often talked in groups, in the beginning I wasn't really going to share anything, and I might have been uncomfortable, but it definitely brought us together. I was able to express myself (as the intervention moved along) and now I trust them more. (Klim-Conforti et al., 2022)

In terms of trust in the wider school system, participants in Klim-Conforti et al. (2022) distrusted the Cognitive Behavioural Therapy Skills Intervention if it was presented as a regular classroom activity without context and conversely, participants were more comfortable when explanation was given as to why Cognitive Behavioural Therapy Skills Intervention was being facilitated. In both Klim-Conforti et al. (2022) and Johnson et al. (2021), some participants felt their schools were not prepared to host PSSP interventions due to the inclusion of topics which are typically 'out of bounds', such as suicide (Johnson et al., 2021). One participant in the study by Klim-Conforti et al. (2022) conveyed how a lack of trust in schools to deliver PSSP interventions could impact their receptiveness of PSSP: "School never talks about it (mental health), you can't bring it up one time and expect us to talk about it. I just do not trust them." (Klim-Conforti et al., 2022)

This construct makes sense of the impact of how adolescents are engaged in PSSP interventions on participants' experiences with interventions. Ultimately, participants valued interventions which they could actively engage with; participants did not want to be passive recipients of PSSP interventions. Participants reported largely positive experiences with experiential and agentic engagement, as well as engagement which incorporates outreach activities (Braun et al., 2021a; Chaniang et al., 2019; Klim-Conforti et al., 2022; Ohlmann et al., 2014; Quinn, 2019; Shinde et al., 2017; Wasserman et al., 2018; Wexler et al., 2017).

Across the retained studies, experiential engagement included discussions (Klim-Conforti et al., 2022; Quinn, 2019) with the addition of role plays and debates (Shinde et al., 2017; Wasserman et al., 2018). Participants and study authors reported on the various benefits of experiential engagement in PSSP interventions for participants, including facilitating learning and sustaining interest in the interventions. Agentic engagement includes leading the focus of the intervention (Braun et al., 2021a; Ohlmann et al., 2014), choosing the focus of mental health topics for PSSP (Quinn, 2019; Wasserman et al., 2018), collaborating to develop and implement the interventions (Chaniang et al., 2019), contributing to speak-out boxes to voice questions and concerns (Shinde et al., 2017) and also incorporated outreach activities such as creating suicide prevention interventions for participants (Braun et al., 2021a; Ohlmann et al., 2014).

Participants made sense of actively engaging with PSSP interventions by juxtaposing these experiences with their typical didactic engagement in the classroom. In Quinn (2019) study participants chose modules to engage with during the RA based on what they perceived to be important for adolescent mental health. Furthermore, participants reported that it was

different to what is normally done in school and had positive experiences engaging in discussion of mental health during the RA, as captured in the following excerpt:

> Yeah, it was different to classes because it was a more open discussion…Yeah, we got to talk to each other more than when we're in class…it's not something you do, like, in a normal school class, so not too many people know much about it, or, how to think about this kind of stuff. So, that's why I think it's good. That's why it's useful. (Quinn, 2019)

A similar juxtaposition was reported in Braun et al. (2021a) study: "I liked this project because it was completely different to things we usually do at school. I liked the opportunity to do something different" (Braun et al., 2021a). Arguably, Braun et al. (2021a) and Ohlmann et al. (2014) contained interventions which were among the most autonomously engaging of the retained studies, insofar that participants co-designed and co-created suicide prevention videos and presentations as part of these interventions, respectively, for their schools and communities. Ohlmann et al. (2014) reported that engaging in the PSSP intervention was transformative for the participants, with their confidence and sense of agency enhanced. Similarly, participants in Braun et al. (2021a) study also experienced transformative impacts from co-creating videos, with one participant making sense of their positive experiences of engaging with PSSP interventions by comparisons with their normative experiences of being positioned as lacking in knowledge and autonomy by adults:

> I really liked that adolescents were involved, because often adults believe, 'adolescents don't even know what life is actually about'. In my opinion, we were treated as very mature and as adults, and in the same way we treated the subject matter in a very mature way as well. I really enjoyed that we were engaged on eye-level. (Braun et al., 2021a).

In Quinn (2019) study participants recommended the continuation of intervention facilitation by trained mental health professionals as opposed to teachers, by juxtaposing their positive and experiential engagement in the intervention with their didactic classroom experiences; teacher-facilitated activities were described as 'having to listen' and 'not being allowed talk' by participants. Alike studies by Braun et al. (2021a) and Quinn (2019), in Klim-Conforti et al (2022) study participants had more positive experiences with the teacher-delivered Cognitive Behavioural Therapy Skills Intervention when it was facilitated in a manner in which participants could take the lead in discussions and when there was open dialogue between participants and teachers. Conversely when experiential engagement was not encouraged, participants reported on more negative experiences with the intervention.

Similar to studies incorporating experiential engagement, participants in studies with greater didactic engagement nonetheless recommended more experiential engagement (Johnson et al., 2021; Klim-Conforti et al., 2022; Labouliere et al., 2015; Mirick & McCauley, 2022). In a study by Johnson et al. (2021) participants (*n*=979) who engaged with the Teen Mental Health First Aid program disliked the didactic nature of the Teen Mental Health First Aid, which was characterised by a lack of both input and peer discussion. Unsurprisingly, participants recommended greater: (1) opportunities to discuss mental health in the context of both the intervention and participants' pre-existing mental health knowledge, (2) group activities, and (3) participation in their own learning and development of skills. The following excerpts captures participants' preference for having an experiential role in Teen Mental Health First Aid: "There was not enough activities that got us involved so many people may have zoned out. It's best to remember that we are high schoolers who need to get involved to stay awake." And "The only thing that would make it even better or more engaging would be more group activities that don't rely on the book. So everyone can participate in some way." (Johnson et al., 2021)

SHARING OF REAL-LIFE EXPERIENCES IMPORTANT FOR CONNECTION AND ENGAGEMENT

This construct captures the importance of sharing experiences and stories among adolescents for connection and engagement with PSSP interventions. Personal story sharing centres PSSP interventions on adolescent own experiences, which further motivates meaningful engagement in interventions. Sharing of personal stories and experiences related to mental health was reported as a particularly beneficial aspect of PSSP interventions in several studies (Braun et al., 2021a; Calear et al., 2021; Johnson et al., 2021; Ohlmann et al., 2014; Quinn, 2019; Robertson, 2008; Wasserman et al., 2018; Zachariah et al., 2018). Personal stories and experiences were shared via: 1) listening to and talking about each other's experiences (Ohlmann et al., 2014; Quinn, 2019; Robertson, 2008; Wasserman et al., 2018; Zachariah et al., 2018), 2) listening to presenters (who were local celebrity athletes) share their personal experiences (Calear et al., 2021), and 3) in videos shown to participants (Hudson, 2016; Johnson et al., 2021) and created by the participants (Braun et al., 2021a). Participants in the retained studies connected to the personal experiences and stories shared, which piqued their interest and enhanced their personal development, learning and sense of connection, as conveyed in the following excerpts:

> "I really liked that we got to tell our stories, this was a real healing process for me", and "it was a really nice feeling to be heard, it made us feel like we were looked up to" (Ohlmann et al., 2014)

> I think by visually watching the videos and examples of students our age experiencing these problems in life gave me a deeper understanding in Mental Health First Aid because I would listen to them and their feelings and understand as [a] friend how they would like to be treated and how I could help if it ever occurs. (Johnson et al., 2021)

> When the lads talked about their history and experiences, I enjoyed listening to them. I wanted to listen. I learned a lot… Yeah, and then there was a lot of interaction and time to speak to each other about the stuff, or something else. (Quinn, 2019)

Ultimately, personal experience sharing was key for relevancy in PSSP interventions. In Calear et al. (2021) study many of the participants who reported connecting with the presenters shared similar mental health experiences to those described by the presenters; conversely participants who did not share these experiences or who were disinterested in sports did not relate as much to the presenters or the programme, which is conveyed as follows: "Not really, because I'm not going through anything myself, and neither are my friends as far as I know, so, it taught me how to help, but didn't really connect with the presenters" (Calear et al., 2021)

Participants recommended even more opportunities for personal story sharing in PSSP interventions, particularly from individuals who had experienced mental health issues (Calear et al., 2021; Johnson et al., 2021; Wasserman et al., 2018). Furthermore, more opportunities for participants to share their own personal experiences and stories was specifically recommended (Johnson et al., 2021; Quinn, 2019), for example: "More activities that relate and share to people's personal experiences, because everyone has their own story to tell no matter how big or small, plus it's a great way to get to know someone better" (Johnson et al., 2021)

In studies incorporating videos, video co-designers were influenced by their own research on stories about suicide online and expected that other adolescents experiencing similar difficulties would watch these videos and feel more understood (Braun et al., 2021a). Furthermore, participants who watched videos which shared real life experiences and scenarios in videos (Hudson, 2016; Johnson et al., 2021) wanted more authentic and nuanced real life scenarios, with Johnson et al. (2021) stating that many participants recommended having a

young person who had experienced a mental illness or crisis come and talk to adolescents as part of the intervention. Furthermore, in Hudson (2016) study participants identified the absence and need for examples of actual experiences related to adolescents experiencing suicidal behaviours, with one participant noting the following:

> I think it would have been like better and kids would have connected more if they heard about real stories of what actually happened to kids instead of just being like oh, it's not gonna happen but you know, just in case of like the 1% that it will happen. They should actually talk about real cases of when it happened. (Hudson, 2016)

Recommendations for greater personal story sharing were also evident in studies which included PSSP interventions which did not contain these activities (Klim-Conforti et al., 2022; Labouliere et al., 2015; Mirick & McCauley, 2022). One participant wanted to have the opportunity to share their own perspectives and shared how it felt for them to not have this opportunity, as follows:

> After she (the teacher) was done talking, we, after a lot of people in our class started raising their hands, and then she said it was all done, you couldn't really tell someone else how you felt about it, because you felt, kind of, embarrassed to. And you didn't really want to raise your hand and say something. (Klim-Conforti et al., 2022)

LINES-OF-ARGUMENT SYNTHESIS

Lines-of-argument synthesis identifies cyclical relationships between: (1) trust in peers, facilitators, school personnel and schools involved in PSSP interventions, (2) experiential and agentic engagement in PSSP interventions, and (3) personal experience sharing and connection. Trust was central to sharing of the self, experiential and agentic engagement and feeling a sense of connection, which collectively were key components of positive intervention engagement with PSSP interventions.

Engaging actively in PSSP interventions disrupted the typical positioning of participants as recipients of didactic instruction from adults. Sharing of participants' experiences was identified as a key aspect of engagement and ensured relevancy of the activities and topics discussed. These activities connected participants to each other and the interventions that they were engaged in. For example in Wasserman et al. (2018) the authors noted that some of the reasons why participants particularly appreciated experiential components of the YAM intervention, including role-plays and debates, was that these activities enabled personal experience sharing and were easy to relate to.

Trust was particularly important in interventions which required experiential and agentic engagement and personal story sharing. The sensitive nature of topics and personal story sharing in PSSP can render participants vulnerable, which is amplified by: (1) participants largely engaging in interventions with other young people, and (2) participants having pre-existing, and sometimes negative perceptions of school contexts, which PSSP interventions are then situated in. As such, trust in individuals involved in PSSP interventions and the wider school context is integral for participants to engage in interactive and personal ways. In some studies, trust led to sharing of the self and connection and vice versa, both of which amplified the positive ways in which adolescents experienced PSSP interventions. For example, Ohlmann et al. (2014) reported that participants experienced meaningful connection and trust by sharing their experiences and engaging in the *Alive* group, a youth-led suicide prevention education group comprising of at-risk participants. The trust and connection developed in the *Alive* group enabled participants to share their personal experiences and stories both within the group and in an outreach capacity via co-created suicide prevention presentations, with the aim to help other adolescents experiencing similar mental health difficulties. Similarly, in Zachariah et al. (2018) study the suicide prevention peer education program provided a space where peer helpers could build trust to share their personal experiences, while being supported

by one another and learning together, as well as supporting at-risk adolescents in their school. Trust, connection, and positive experiences was empowering and transformative, which is evident by the fact that participants (including at-risk adolescents) in these studies engaged in outreach activities to help others beyond their trusted and connected groups. Although trust was not explicitly referred to in Braun et al. (2021a) study, participants' engagement was also transformative, and the authors reported that the participants had a respectful space where they could talk freely about their opinions and actively engage in discussions, which suggests that trust and connection contributed to the participants' positive engagement.

DISCUSSION

A systematic review subject to a meta-ethnographic approach employed reciprocal translations and lines-of-argument synthesis to explore and integrate adolescents' experiences of engaging with PSSP interventions targeting STBs directly and alongside other health and well-being outcomes, as end-users, co-creators, and peer helpers. Findings reveal the importance of: (1) personal experience sharing and connection, (2) trusting peers, school personnel, facilitators and wider school settings involved in PSSP interventions, and (3) experiential and agentic engagement in PSSP interventions. Lines-of-argument synthesis interlinks these findings and highlights the central importance of adolescents' trust in and connection with individuals and schools involved in PSSP interventions, for sharing of the self and actively engaging in interventions in meaningful and beneficial ways. Ultimately, when trust, connection, active engagement, and personal experience sharing synergistically occur, PSSP interventions can be transformative and empowering for adolescents. However, given the ingrained nature of PSSP interventions in school settings, aspects of school contexts can either help or hinder how adolescents engage with interventions. More broadly, the present lines-of-argument synthesis provides a novel narration of the intersection between school contexts and adolescents' experiences with PSSP interventions, which aligns with realist approaches' arguments for the

need to consider aspects of context, including key stakeholder perspectives, in intervention evaluation and implementation (Domitrovich et al., 2008; Fletcher et al., 2016; Pawson & Tilley, 1997; Proctor et al., 2011). As such, our review addresses an important gap in understanding how adolescents perceive their engagement with and positioning in PSSP interventions in studies conducted in North America, Europe, Asia, and Australia.

The present findings demonstrate the potential for: (1) poor adolescent-school personnel relationships and (2) a lack of trust in individuals and school settings, to undermine adolescents' engagement with PSSP interventions. Lack of trust and desire among adolescents to reach out to school personnel involved in PSSP interventions reflects findings relating to adolescent help-seeking for mental health, with key barriers to help-seeking among young people including concerns about trust and confidentiality and perceptions of adult helpers as unhelpful and untrustworthy (Cigularov et al., 2008; Gulliver et al., 2010). Furthermore, the review by Gulliver et al. (2010) identified links between stigma and concerns about both confidentiality and trust, insofar that peers and family could find out about young people's help seeking. This potential explanation could shed light on why a lack of trust in school personnel and schools could hinder adolescents' engagement in PSSP interventions. Taken together, these findings contradict the notion that students are more likely to prefer school-based mental health interventions delivered by teachers and school personnel given that students have daily contact and rapport with these individuals in comparison to external facilitators (Bastounis et al., 2017). Although it may be true in the context of strong and trusting student-school personnel relationships, it is important that a blanket approach to this ideal is not applied to all school settings, which vary considerably across contexts, in terms of school personnel and student rapport and school culture. Furthermore, our review in chapter 3 including ~47000 participants demonstrated a lack of consideration to student-school personnel relationships and perspectives with respect to PSSP interventions, indicating that these aspects of engagement

are not currently prioritised in the field of PSSP, which is particularly problematic given that teachers were mostly involved in delivering PSSP interventions, followed by school counsellors and psychologists (Walsh, Herring, et al., 2022).

The meta-ethnographic findings demonstrate adolescents' preference for PSSP activities which are experiential in comparison to activities involving didactic instruction akin to academics and learning, which resonates with findings in the wider school mental health intervention field that young people prefer hands-on practical activities in comparison to didactic activities (Foulkes & Stapley, 2022). Montero-Marin et al. (2022) conducted a secondary analysis to explore for whom the school-based MYRIAD study worked/did not work (*N*=8376). Despite good fidelity, reach and dosage of the intervention, participants' engagement was strikingly low, leading the authors to conclude that more engaging pedagogical approaches may have enhanced the accessibility, engagement, and effectiveness of the intervention. Based on these findings the authors concluded that it is important that adolescents who are the target of these interventions have a say on both the content and how they are engaged in these interventions.

Our findings showing that adolescents' engagement with PSSP interventions was influenced by peers in both positive and negative ways is unsurprising, given that adolescents are developmentally more susceptible to peer influence in comparison to their non-adolescent counterparts (Ciranka & van den Bos, 2019; Prinstein & Dodge, 2008). Moreover, when engaging in classroom-based mental health interventions adolescents can feel vulnerable sharing private thoughts and feelings in front of peers (Foulkes & Stapley, 2022). In a study exploring the implementation of 'Welcome To School', a classroom-based, teacher-led psychosocial intervention for migrant adolescents, the classroom rules (i.e., respect and confidentiality) were key for facilitating a confidential space where sharing of personal experiences among adolescents could occur (Borsch et al., 2023), which further aligns with the

present lines-of-argument synthesis findings showing the importance of trust and connection for agentic and experiential engagement in PSSP interventions.

The present finding showing the importance of adolescents' sense of trust in school settings to host PSSP interventions aligns with findings showing that: (1) educational settings' culture was key for effective social, emotional, and mental wellbeing provision (Demkowicz et al., 2023), and (2) supportive school environments encouraged adolescent peer researchers' engagement with *Health Promoting Schools*, with schools' social and physical environment highlighted as particularly important for engagement (Kontak et al., 2022). Furthermore, Kontak et al. (2022) identified that key barriers to engagement included both: (1) power imbalances between adolescents and adults and (2) adolescents' perceptions of not being taken seriously. The importance of supportive and trusted school environments in facilitating adolescent engagement with interventions needs to be considered in the context of the unavoidable power differentials between adolescents and adults (Facca et al., 2020), which are magnified in settings such as schools (Robinson and Kellett 2004, as cited in Gallagher, 2008). Researchers conducting school-based research must be cognisant to the power imbalances between young people and adults in these settings (Robinson and Kellett 2004, as cited in Gallagher, 2008), which are entrenched in the hidden and informal power hierarchies in schools (Kohfeldt et al., 2011).

STUDY QUALITY

Study quality appraisal was undertaken to assess the quality of the retained studies and to enhance in-depth understanding of studies. Although we outlined adjustments to the CASP assessments to recognise the variability across differing qualitative methods in chapter 4, nonetheless assessments were influenced by the employment of various qualitative methodologies which each have unique theoretical underpinnings, objectives, and capabilities.

Subsequently, no studies were excluded based on study quality, which is the recommended approach in reviews which employ a meta-ethnographic approach (Atkins et al., 2008).

CASP assessments mostly contained 'yes' responses, which suggests that the retained studies largely used suitable methodologies and that findings are useful to the wider PSSP field. However, CASP assessments revealed that most of the 'no' and 'can't tell' responses were recorded for the item assessing the extent to which the relationship between researchers and participants was adequately considered (half of the retained studies). Given the power imbalances between researchers and youth participants (Facca et al., 2020; Scotland, 2012), which are further accentuated by the power differentials in school contexts (Robinson and Kellett 2004, as cited in Gallagher, 2008), advocacy/participatory worldviews and critical perspectives which recognise the importance of the power and positioning of researchers and adolescents in research and wider society (Creswell & Poth, 2016) should guide future PSSP research and wider school mental health research.

LIMITATIONS

Our review identifies several gaps in knowledge in the PSSP field. Firstly, our review contains largely White samples located in predominantly White countries. This gap in knowledge reflects broader school mental health qualitative research which has mostly sampled White and middle class participants (Foulkes & Stapley, 2022). Secondly, there was a lack of consistency in the reporting of important contextual factors across the retained studies, including participant and school demographics. Taken together, these identified gaps highlight the urgent need for: (1) greater prioritisation of research exploring adolescents' perspectives on PSSP interventions in lower income countries and among minority samples, and (2) enhanced reporting of contextual characteristics in studies focusing on PSSP interventions both generally and more specifically with respect to studies exploring adolescents' experiences with PSSP interventions.

Thirdly, our findings highlight a clear gap in PSSP intervention research which employs participatory designs, with only 3/16 of the retained studies engaging adolescents as co-creators in aspects of the interventions. However, it is important to recognise that participatory research can be particularly complex and resource-intensive in school settings for several reasons: (1) there can be a dichotomy between how adolescents are typically passively positioned in the school setting versus the active involvement of adolescents in the participatory research process (Kohfeldt et al., 2011), (2) there are notable complexities related to marrying interventions with classroom and school contexts (Borsch et al., 2023; Kohfeldt et al., 2011) and (3) there are various stakeholders involved in PSSP interventions which extends beyond non-school based research (i.e., teachers, parents and principals).

In terms of sampling, most of the retained mixed method studies sampled a subgroup of the participants for the qualitative component of the intervention evaluation. Foulkes and Stapley (2022) notes that the qualitative evaluation of school mental health interventions can include samples largely representing adolescents who are more enthusiastic about the intervention or discussing their participation. For instance, majority of the participants who drop out of the earlier stages of PSSP intervention trials are not included in the qualitative evaluation, which can typically occur at the end of the evaluation. Subsequently, the meta-ethnography may have mostly synthesised perspectives of participants who opted-in to the qualitative component of evaluations, which could potentially result in findings which are more favourably inclined towards PSSP interventions. Foulkes and Stapley (2022) recommend asking all participants to numerically rate how much they liked an intervention, which could provide researchers with information to guide their invitation of follow-up inquiry to participants with a diverse range of opinions.

IMPLICATIONS

Our findings showing that trust, connection, and sharing and receiving of personal experiences were key to adolescents' empowering and transformative engagement with PSSP interventions should guide future design and implementation priorities for PSSP interventions. Evidently, it is important to consider youth-centred, community-oriented, empowering, and creative ways to engage adolescents in research pertinent to PSSP and wider school mental health, given that our meta-ethnographic review demonstrated that empowerment was far-reaching to the wider school context through adolescent-driven outreach activities.

In our review most studies employed universal interventions. Given that these interventions expose participants to the same content, some participants may not find it particularly relevant or helpful to them, or worse may be harmed by these interventions (Foulkes & Stringaris, 2023). Considering the challenge of balancing the usefulness of the widespread reach of universal interventions with the need for these efforts to be beneficial to all participants, our finding that personal experience sharing was largely perceived to be integral for ensuring that PSSP interventions were relevant across the retained studies is a key finding to both the PSSP and wider school mental health fields. As such, we recommend greater consideration to universal PSSP interventions which centre interventions on adolescents' experiences and viewpoints, in ways which recognise that adolescents will have varying interests and capacities to share and receive personal stories and experiences.

It is integral that due consideration is given to individual-level contextual factors, including relationships and interactions among adolescents participating in PSSP interventions, to ensure that PSSP interventions can reach their full potential. Moreover, facilitators' and teachers' roles in PSSP interventions and relationships with adolescents are modifiable factors which can both be harnessed to either help or hinder adolescents' engagement with PSSP interventions. As such, we recommend the exploration of these concepts from the perspectives of adolescents as an important direction for PSSP research, as well as the wider school mental

health field. In practice, adolescents engaging in PSSP interventions should have opportunities to: (1) engage in relationship building activities, (2) engage with interventions components in smaller groups and (3) opt-out of activities.

CONCLUSION

Our review makes an important contribution to the field of PSSP by presenting novel insights into the importance of exploring and integrating the perspectives and experiences of adolescents engaging with PSSP interventions, as end-users, co-creators, and peer helpers. Based on the present findings, it is recommended that PSSP research re-focuses from effectiveness to implementation matters pertaining to the experiences and perspectives of adolescents who are at the centre of PSSP interventions. In light of the increasing focus on youth voice and involvement in wider health related fields (Patton et al., 2016; Sellars et al., 2020), our findings transcend the field of PSSP, and are relevant to wider research fields which value youth voice and youth engagement in interventions.

CHAPTER SIX

Perspectives of adolescents in Ireland on school-based mental health and suicide prevention: The MYSTORY study

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Status: Published

Contribution: EW contributed to the study as follows:

Identified the research objectives

Led the study concept and design

Led the facilitation of focus groups

Data transcription and initial coding

Theme development, refinement, and finalisation

Drafting and critical revision of the manuscript for submission for peer-reviewed publication

Aim of Study: To explore young people's experiences with and beliefs about school mental health promotion and suicide prevention using experiential, reflexive TA within a critical approach.

Contribution to PhD and State of the Art:

Reflexive TA within a critical approach generated the following three themes relating to school mental health and suicide prevention: (1) Aspects of schooling experiences unhelpful to young people's mental health, (2) The need for young people's involvement and (typically unheard) voice in school mental health, and (3) School personnel as 'frontline' for supporting young people with their mental health: a double-edged sword. Our findings demonstrate the potential of schools to be a key setting to support adolescents with their mental health, but school mental health and suicide prevention must be shaped by youth voice and the specific needs of school contexts must be given due consideration in the scaffolding of school mental health supports.

Our findings contribute to the understanding of adolescents' perspectives on their voice and involvement in school mental health in the wider literature and are among the first of their kind in the Irish context. Notably, the following findings provide a unique and important insights regarding the implications of adolescents' positioning in school settings: (1) school-based mental health interventions and consultation spaces both lack and need meaningful youth involvement and voice and (2) adolescents' involvement and voice may not result in meaningful change in school mental health given their lack of agency in the school environment.

Alignment with PhD programme of research: The findings generated in this study provide valuable insight into the context of school mental health and suicide prevention in Ireland, which is important given the importance of considering school mental health and suicide prevention as situated in unique cultural contexts, in line with the theoretical framework presented in chapter 1. Furthermore, the findings highlighting the critical role of schools in impacting adolescents' mental health and the need to amplify youth voice and involvement in

school mental health and suicide prevention provide important insight, in the context of findings in chapter 5 highlighting the need to consider aspects of the schooling context. Taken together, these findings provide important insight needed for considerations for future PSSP interventions. The engagement of adolescents in a participatory- and arts-based study informed by critical perspectives involving rapport and skill building and sharing of perspectives in creative, meaningful, and empowering ways aligns with key construct findings in chapter 5.

Abstract

Anxiety, depression, and suicide are leading causes of disability and death among adolescents, globally. Schools are an ideal setting to target adolescent mental health, yet adolescents' beliefs about and experiences with school mental health and suicide prevention are not well understood. This gap in knowledge contradicts both national and international youth mental health recommendations and the UNCRC, which collectively advocate for understanding young people's perspectives on matters concerning them. Therefore, the MYSTORY study explored adolescents' perspectives on school mental health and suicide prevention using a participatory-based approach incorporating photovoice. The MYSTORY study consisted of a community/university partnership involving adolescents as participants (n=14) and advisors (n=6). Experiential, reflexive TA within a critical approach generated three themes relating to adolescents' experiences with and beliefs about school mental health promotion and suicide prevention. Findings highlight the critical role of schools in impacting adolescents' mental health, with the need to amplify youth voice and involvement in school mental health evident. Our study addresses an important gap by employing participatory-based approaches to explore adolescents' perspectives on school mental health and suicide prevention. This is the first known study to present adolescents' perspectives on their voice and involvement in school mental health. Findings have important implications for adolescent and school mental health and suicide prevention research, policy, and practice.

Introduction

Anxiety, depression, and suicide are leading causes of disability and death among adolescents, globally (WHO, 2021a; 2021c) Suicide has risen among adolescents over the last decade (CDC, 2020; Office for National Statistics, 2020). Adolescent mental health has deteriorated during COVID-19 (Samji et al., 2022) and is now even more of a critical societal concern. Schools are an ideal setting to promote adolescents' mental health, given schools' capacity to: (1) reach diverse young people, (2) facilitate social connections, and (3) host wide-ranging interventions (Marinucci et al., 2022; Ross et al., 2017). School-based mental health promotion encompasses a continuum of interventions, including social and emotional learning, life skills promotion, and emotional and behavioural issues prevention, all of which are enhanced by involving key stakeholders, such as adolescents (Weist & Murray, 2008). PSSP involves targeting suicidal thoughts and behaviours as primary intervention outcomes and indirectly through wellbeing outcomes and can include curriculum-based and gate-keeper-focused interventions, as well as crisis support (Miller, 2021). Post-primary, school-based mental health promotion and suicide prevention interventions have demonstrated effectiveness (Feiss et al., 2019; Walsh, McMahon, et al., 2022). Furthermore, a review of reviews synthesising school-based mental health interventions indicate positive intervention impacts far-reaching to communities (Weare & Nind, 2011).

Despite the clear benefits of targeting adolescents' mental health in school settings, adolescents' beliefs about and experiences with school-based mental health promotion and suicide prevention are not well understood. In Canada and Australia adolescents were dissatisfied with the scarcity of mental health supports in school (Bowers et al., 2013; Marinucci et al., 2022). Adolescents engaging with PSSP supports in the US reported: (1) exclusion from decision-making, (2) positive and negative perceptions of risk assessments, and

(3) traumatic experiences with external interventions (Kodish et al., 2020). Despite Ireland's school mental health policy advocating for an enhanced understanding of adolescents' perspectives on school mental health (DES, 2019) there is little known about adolescents' perspectives on school mental health and suicide prevention in Ireland.

The importance of understanding adolescents' perspectives on school mental health and suicide prevention is two-fold. Firstly, adolescents' views are key determinants of school mental health intervention effectiveness, with a review identifying adolescents' perspectives on school mental health interventions as a key predictor of postvention mental health outcomes (Rojas-Andrade & Bahamondes, 2019). Secondly, Article 12 of the UNCRC mandates that young people have a right to express their views on matters affecting them (UN Human Rights, 1990). Too often young people's knowledge is assigned lesser value in comparison to adult-centred knowledge (Chimirri, 2019). As such, research exploring adolescents' perspectives should be informed by youth-centred paradigms, such as the advocacy/participatory worldview, which prioritises inquiry 'with' young people, as opposed to 'on' young people, while striving for positive changes in young people's lives (Kemmis and Wilkinson [1998], as cited in Creswell and Poth [2016]). Participatory research approaches aim to engage participants more equitably in research, by striving to increase agency and mitigate issues of power (Teixeira et al., 2021; Water, 2018).

Research should meaningfully involve adolescents using methods which align with adolescents' developmental stage, particularly when sensitive topics are being explored (such as mental health), which are often associated with more challenges (Dickson-Swift et al., 2007). A population-based study in Australia demonstrated that only 16.4% of participants were classified as having adequate mental health literacy levels (Lam, 2014), and a study in Ireland involving 187 participants indicated that adolescents had difficulties with aspects of mental health literacy, including identifying depression and potential suicidality (Byrne et al., 2015).

Photovoice is a rigorous, participatory-based research method which integrates empowerment education, feminist theory, and documentary photography, to represent participants' needs, encourage action, and inform policy (Wang & Burris, 1994). Photovoice has shown particular value in exploring adolescents' perspectives on and experiences with mental health in an empowering and youth-centred manner, leading to critical thinking and self-reflection (Vélez-Grau, 2019). However, no known study exploring adolescents' perspectives on school-based mental health promotion and suicide prevention has used photovoice.

To address the gaps discussed, the MYSTORY study aims to explore adolescents' experiences with and beliefs about school mental health promotion and suicide prevention.

Methods

We took a critical view to using the Consolidated Criteria for Qualitative Research (COREQ) (Tong et al., 2007) to inform our inquiry, as some COREQ components did not align with our analytical approach, including: (1) data saturation, which is incompatible with reflexive TA (Braun & Clarke, 2021d) and (2) participant checking, given the researcher's role in data interpretation and due to participants not remaining in the same place in time throughout the research process (Braun & Clarke, 2021c).

THEORETICAL FRAMEWORK AND REFLEXIVITY

The critical paradigm reflects our assumption that individuals exist within power-laden and inequitable environments, which means that power is always at play (Leavy, 2017). Arguably young people are marginalised by power dynamics between themselves and adults (Facca et al., 2020; Pincock & Jones, 2020), which can manifest as perceptions (both implicit and explicit) that young people are incapable of making informed decisions about matters impacting them (Bradbury-Jones et al., 2018). Settings for young people, such as school, contain significant power imbalances between adults and young people (Robinson and Kellett [2004], as cited in Gallagher [2008]). Moreover, Ireland is a cultural context which does

not have a notable history of student voice (Skerritt, Brown, et al., 2021). As such, power is a particularly important concept to consider when exploring experiences with and perspectives related to school mental health and suicide prevention with adolescents in Ireland.

The MYSTORY study is underpinned by contextualist and critical approaches to epistemology. In line with Guba and Lincoln (1994), we believe that reality is shaped by social, political, cultural and gender values. Research from a critical perspective strives to target issues in social life, such as social justice and marginalism while considering issues of power in the research process. There are inevitable power imbalances between participants and researchers (Leavy, 2017; Scotland, 2012), insofar that researchers determine research questions, methods, and outputs. Participatory research both acknowledges power as a central research component and offers a way to intervene with unavoidable notions of power, by placing enhanced value on young people's authentic knowledge and perspectives on the world. Furthermore, participatory methods are arguably more ethically acceptable research methods, due to their alignment with the UNCRC (Gallagher, 2008). Ultimately, we generated knowledge through the interaction between data and our own perspectives, research interests, and experiences (Madill et al., 2000; Scotland, 2012). Therefore, knowledge generated through inquiry is socially constructed, situationally dependent, and impacted by power differentials (Brendel & Jäger, 2005; Madill et al., 2000; Scotland, 2012), which leads to value-mediated findings (Guba & Lincoln, 1994).

EW is a female doctoral student, with experience in mentoring adolescents in a national voluntary organisation. JMM, the supervising author, has expertise in engaging adolescents in mental health projects. EW and JMM engaged with young people involved in MYSTORY and engaged in critical reflexivity (Spencer et al., 2020) by reflecting on and discussing their influence on the research. EW used a research diary to enhance reflexivity by: (1) reflecting on the influence of identity and personal insights (Leavy, 2017; Meskell et al., 2021; Rabiee,

2004), (2) appraising how actions and relationships could influence young people's engagement (Abma et al., 2022b; Berger, 2015; Montreuil et al., 2021; Water, 2018) and (3) reflecting on sensitive aspects of the MYSTORY study (Rodriguez, 2018) and the unprecedented complexities related to COVID-19. Supplementary Figure 6.1 contains a sample excerpt from the research diary.

MYSTORY

The MYSTORY study consisted of a university-community partnership between the University of Limerick and a community, youth mental health organisation based in the mid-west of Ireland from October 2020-2022, which will be referred to as our community partner herein. Chapter 7 provides in-depth detail of the aspects of the wider MYSTORY study and the MYSTORY study methodology, which are summarised herein. MYSTORY incorporated photovoice workshops, in-person focus groups involving photo elicitation and the exploration of school mental health and suicide prevention perspectives, a photovoice exhibition, and an online focus groups exploring participants' perspectives on the MYSTORY study. Only as far as the first focus groups will be discussed in chapter 6. Chapter 7 reports on the participants' experiences with and perspectives on the MYSTORY study.

A male, youth mental health worker working as a youth advocate with our community partner facilitated the young people's engagement with MYSTORY, and he will be referred to as the MYSTORY gatekeeper herein. The MYSTORY gatekeeper had an existing professional but trusted and friendly relationship with the young people involved in the MYSTORY and had no vested interest in the research outcomes. The MYSTORY gatekeeper's 'insider' positioning was beneficial to the young people involved in MYSTORY, in the context of the previously discussed unavoidable power differentials between participants and researchers. Furthermore, having a dedicated staff member is frequently cited as a key facilitator to young people's involvement in health-related research (Sellars et al., 2020). The MYSTORY

gatekeeper facilitated engagement in the MYSTORY study by: (1) assisting with the recruitment of participants and the young person advisory group (YPAG), (2) advocating on behalf of the young people involved in the MYSTORY study, and (3) supporting the young people when they encountered any issues with the MYSTORY study, such as during COVID-19 restrictions.

PARTICIPANTS, RESEARCH ADVISORS, AND RECRUITMENT

Our community partner worked with two groups of young people, a senior group comprised of 19–24-year-olds and a junior group comprised of 16-19-year-olds, who both advised on service development and mental health advocacy. Young people involved in these groups engaged in the MYSTORY study as research advisors (as part of a YPAG) and as participants. The YPAG consisted of six young adults who were part of our community partner's senior group. We collaborated with the YPAG over four meetings to: (1) springboard ideas, (2) gain greater insight into young people's experiences, and (3) gain perspective on aspects of the MYSTORY study, including the workshops, photography theme and focus group question development. Fifteen adolescent participants aged 16-19 years from our community partner's junior group were purposively sampled (all but one participant took part in the in-person focus group). In the in-person focus group, there were 8 females, 5 males and one individual who did not disclose their gender. All but three participants were attending mainstream post-primary school at the time of data collection, with the remaining three participants recently exiting post-primary school.

Electronic information sheets and consent forms for participants and their parents/guardians provided both participants and their parents/guardians with information on and ethical considerations to the MYSTORY study (see Appendix C for participant and parents/guardian information sheets and consent forms). EW rang parents/guardians of

participants aged under 18 years of age to confirm their participation and to address any questions that they may have about the MYSTORY study.

PROCEDURE

Focus groups with adolescents can be challenging, with adolescents' developmental stage making them more susceptible to peer influence, discomfort, and shyness (Norris et al., 2012). However, photovoice provides an accessible method for adolescents to reflect on and express their thoughts and feelings through capturing and sharing photographs (Wang, 2006) and enables discussions rooted in the participants' lives (Hergenrather et al. 2009; O'Latz 2017; Wang and Burris 1994). Photovoice is also useful for exploring sensitive topics with adolescents (Wang, 2006), which can be challenging to discuss in traditional focus groups (Punch, 2002; Wellings et al., 2000). A recent scoping review concluded that photovoice is a flexible, adaptable and inclusive participatory research method, with capacity to serve diverse mental health research interests and aims (Stephens et al., 2023). Exploring school mental health promotion and suicide prevention 'with' adolescents who have contextualised their unique experiences using photovoice is well situated in our theoretical framework, which seeks to explore the unique and contextually-specific experiences of adolescents in our sample (Creswell & Poth, 2016), while acknowledging our influence as adult researchers on the study findings.

Two preparatory photovoice workshops featuring an audio-visual presentation were facilitated by EW, JMM, the MYSTORY gatekeeper and a professional photographer (who was also a YPAG member) on Microsoft Teams, for the participants to: (1) discuss MYSTORY, (2) build rapport and co-design ground rules, and (3) develop skills needed to engage in MYSTORY (i.e., photography skills and ethical considerations, in line with O'Latz [2017]). Workshops were interactive, developmentally appropriate, and goal-oriented, similar to previous procedures (Pincock & Jones, 2020; Vélez-Grau, 2019). During workshop 1

participants were tasked with taking one photo to engage in photo elicitation at workshop 2 and during workshop 2 participants were instructed to capture three photographs for the focus group, representing personal, community, and school mental health. A protocol outlining non-appropriate content for photographs (i.e., violence and discrimination) was shared with the participants in the workshops and through email.

We developed scripted photo prompts and open-ended focus group questions informed by the YPAG. Two focus groups containing seven participants each were conducted. Photo elicitation was interwoven throughout the focus group discussions on school mental health and suicide prevention, with participants sharing the meaning of one of their photographs. Focus group questions were non-leading and aimed to understand experiences (i.e., "What are your thoughts on school mental health and suicide prevention?") and beliefs (i.e., "If you had a magic wand what would you do for mental health and suicide prevention in school?"). To support participants' potential distress during the focus groups, a mental health professional was available to provide support (no participant needed to consult with the mental health professional during the focus groups).

ANALYTICAL APPROACH

Our ontological and epistemological stance guided the use of experiential, reflexive TA, to explore experiences and beliefs regarding school-based mental health and suicide prevention (Braun & Clarke, 2021a; Wiltshire & Ronkainen, 2021). EW led data analysis. Firstly, EW transcribed the data, which aided data familiarisation. Data familiarisation was further enhanced by reading the transcribed data and listening to the audio in an iterative manner, while noting patterns and observations. Then, data was coded using Nvivo12 with respect to the research questions, grouping excerpts into codes to form initial themes. EW and JMM discussed the generated codes and initial themes, in the context of: (1) their own experiences of engaging with adolescents both generally and during MYSTORY, and (2) the

theoretical and conceptual underpinnings of the MYSTORY study, including the concept of power. This collaboration led to theme refinement and finalisation (Braun & Clarke, 2020). Semantic, latent, deductive and inductive themes were generated from this process (Braun & Clarke, 2019a). Participant excerpts have been assigned non-identifiable codes. Minor edits were made to excerpts to hide identifiable information and for clarification which is denoted by '[..]'.

Results

Photographs captured by the participants in the MYSTORY study conveyed mental health difficulties, academic stress, drug use, loneliness, experiencing mental health difficulties and mental health promotion in school settings, self-care, resilience, and hope. Sample photovoice photographs captured by the participants can be found in Supplementary Figure 6.7-Supplementary Figure 6.9. Three themes relating to school mental health and suicide prevention were generated. Table 6.1 outlines the codes and exemplar quotations for the themes.

ASPECTS OF SCHOOLING EXPERIENCES UNHELPFUL TO ADOLESCENTS' MENTAL HEALTH

Many participants believed that school-based mental health supports, such as counselling, mental health awareness and identification of mental health difficulties could be potentially a huge benefit to adolescents. Moreover, there was a sense of expectation that schools should address adolescents' mental health difficulties and needs, given the significant portion of time that adolescents spend in school. However, participants believed that key aspects of their schooling experiences, such as academics, social and school mental health, were unhelpful to adolescents' mental health.

Participants believed that the impact of academics on adolescents' mental health was two-fold. Firstly, academic achievement pressures could lead to mental health difficulties

among adolescents, with exam pressures and peer comparisons of academics associated with psychological distress, feelings of inadequacy and concerns about the future after post-primary school. Some participants believed that feelings of inadequacy bridged challenges with academics and mental health, as indicated in the following excerpt: “It just creates a thing like, that just because you can’t do this thing to the extent that everyone else can you’re not like, as good, you’re not like.. it kind of takes a dig at yourself” (KH814).

Secondly, academics were described as indirectly impacting on the accessibility of school mental health supports. School mental health supports, such as mental health workshops and programmes, were ringfenced for non-exam years. Some participants also expressed the perception that school personnel were dissatisfied when students were engaging in non-academic activities, due to concerns that students would miss out on academics. Some participants who had experienced mental health difficulties shared the belief that there was no room in the classroom for mental health difficulties, with school-based supports mostly inaccessible until such difficulties were noticeable in the classroom. Furthermore, some participants engaging with school mental health supports shared a sense of dismay due to having to take ownership in coordinating their supports, which is challenging in the busy school environment. The following excerpt captures one participant’s experience of having a panic attack in school:

Having a panic attack in school and because I had it there they had to, they had to, they had no choice but to like, give me support and like, talk to me and see if I was okay and then going back into school this year that same level of support just wasn’t there [..] unless you are literally crying in the classroom or crying to the guidance counsellor they don’t really take you seriously (KH814).

Table 6.1

Coding Table of Themes, Codes, and Exemplar Quotations

Theme name	Codes	Exemplar quotations
Aspects of schooling experiences unhelpful to young people's mental health	Academics as of utmost importance in schools Academics linked to mental health difficulties Failure to attain academic achievement hinders progression to the next stages of life Academic achievement as an indicator of value in people Self-worth linking academic achievement difficulties and mental health difficulties Greater availability of mental health-related workshops during non-academic years School environment as trapping Little space to experience mental health difficulties in the classroom	That's all its' [school] focused on like, just grades (LQ865) I think a lot of the problems that people can encounter in school can sort of start around basing your self-worth off of what you produce, the work that you do and the results you get (UX851) I had really like, bad anxiety and the whole exam stress on top of it as well was just not helping (HD567) The positive affirmations isn't going to get rid of my thoughts or like, get rid of having panic attacks or anxiety attacks, or like anything like that, it's just like a positive affirmation, it's not like, anything to actually like, to do with how you should talk to people, could talk to people, how you can respond to people if they are talking to you about their mental health [..] it's never like actually about mental health or like, how to cope with everything, and it's just like, it just

	Feeling alone when dealing with mental health difficulties Having to hide aspects of identity in the school environment Unwanted attention from peers when mental health difficulties are noticeable in the classroom Greater availability of support in school when mental health begins to impact the school environment Lack of sustained initiatives which positively impact young people's mental health Positive experiences with school based mental health programmes School mental health supports as unrelatable and unhelpful Onus on young people to co-ordinate their school-based mental health supports Value in identifying mental health difficulties in schools Expectation of schools to support young people with their mental health needs Lack of trust in schools to host mental health supports for young people	seems really like false, it's like, it's just like tick a box (KH814) We did like, a load of workshops in transition year I feel like that was the only time our school kind of does things like that is with the transition year students who don't have to focus on exams (GV703) There is 600 students in my school alone and every single one of them could be suffering with something completely different, and if there was something that big to help them in school where they go, five days a week for 8 hours it could be perfect, it could be amazing, it could be life-changing for them (LT763)
School personnel as "frontline" for supporting young people with their	Guidance counsellors as key to supporting young people with their mental health in school	Because they [guidance counsellors] are guiding you with your life but they're not really guiding you with your mental health most of the time (PQ471)

mental health: a double-edged sword	Guidance counsellors provide career support instead of mental health support Guidance counsellors having lack of competency to support young people with their mental health Not enough guidance counsellors to provide mental health support Positive impact of teachers on young people's mental health Negative impact of teachers on young people's mental health Teachers as a type of friend Dislike of confiding in teachers perceived as unfriendly Dismissal of mental health by teachers Teachers expected to be a key supportive adult in supporting young people with their mental health Teachers as among the closest adults to young people Teachers having the potential to be key in identifying mental health needs in young people Importance of perceiving school personnel as available to provide support Importance of kindness in school personnel when supporting young people	Have more guidance counsellors available because sometimes one guidance counsellor isn't enough for like, 600 students you know? One person isn't realistically capable of looking after like, or listening to 600 people, you know? It's not realistic (HD567) Our vice principal, she was really nice and I think she did help a lot of people but she was very busy, but she helped people whenever she could. There was a time where she helped me when I was in distress, and she's young and she has kids of her own she has been through like the stuff that we have been through so she was very understanding and like, empathetic (CG742) Like they [teacher] clearly not like, don't have an education around mental health (KH814) They're [teachers] are kind of like frontline I suppose they are probably the closest people to students, like they maybe talk to you most as well every day, they probably see things more than anyone else would, even more than the guidance counsellor probably (LQ865) If they were there all day every day in their office and like, their only responsibility was us and our mental health rather than being a teacher of a subject at the same time (DL091)

	Importance of feeling that school personnel could understand what young people experience with their mental health Greater understanding of young people's mental health by younger school personnel Importance of informal relationship between young people and school personnel who support young people with their mental health School personnel not always having the time or capacity to support young people with their mental health Need for school personnel who solely provide mental health support Referral of mental health difficulties to external supports Preference to receive mental health support from school personnel The importance of everyday interactions with school personnel	
The need for young people's involvement and (typically unheard) voice in school mental health	Young people are not taken seriously both inside and outside of school Young people as passive receivers of school mental health supports Desire for school mental health interventions informed by young people	I think that with youth things in schools and or even outside of schools, sometimes they're not taken seriously because they're the youth [..]…I think sometimes it's just like "they don't know what they are talking about, their just like, the students" when really there wouldn't be a school without the students, it wouldn't make sense (KH814) When we have this whole concept of a student group, helping people and like, feeling like your voices are heard

	One size fits all approaches to school mental health programmes Need for tailored and youth-informed school mental health approaches Diversity as important in young people's involvement in school mental health Different schools have different issues Inability of student voice to make changes Importance of young people's voice in school mental health Lack of agency of young people Lack of agency for student council members to connect with young people Adult-led identification of students for student councils Discontentment with student councils due to lack of youth-led change Preference for peer-delivered school mental health programmes due to enhanced relatability to young people Benefits for young people receiving peer-delivered programmes Benefits for young people delivering peer-delivered programmes Concern that peer helpers may not act in confidence in their role	or feeling like something is happening, a big drawback is you are trying to help but you are not actually able to change anything for them if that makes sense (PQ471) I think having something from people in the school from students that are maybe experiencing the same things that you are in the same environment, that could be a lot more beneficial than even I think programmes [..] I think having that kind of insight into the school environment and what can be done on that level, because every school is so different, could be very beneficial for students if it's done well (UX851) Young people know young people's issues (JU678) I was a member of the student council and they're kind of like, supposed to help students, students didn't really come up to us and we weren't really given the chance to talk to students, tell them like "oh if you want to talk to us you can", we just kind of had a little badge, but we never got to like communicate, apart from like the tea club we did last time, we got talk to students and they got to see who we really were, I feel like they didn't really know, if that makes sense (GV703) We have like, student council.. that's kind of it, we have like clubs whatever, but they're not.. they haven't changed anything since I've gotten here, they haven't changed anything since first year, every single year people roll up and

	Concern that peer helpers may become overwhelmed in their role Importance of mutual respect between young people and school personnel collaborating in school mental health Need for anonymous communication between young people and school personnel	nothing happens, I feel like with something like this it would be incredibly important to have something actually happening (PQ471) I do think having some kind of programme where students are trained in how to deal with people coming to them, and be like "look, you know this is how I am feeling" and kind of not being judgemental or taken aback by that, and sort of trying to understand, you know, what they are going through (UX851) I think that it was good that they got it, for us [peer helper] to deliver to other years because am, they might be able to relate to a young person, rather than an older person (HD567)

Moreover, some participants believed that social aspects of their schooling experiences were unhelpful to adolescents' mental health. Mental health difficulties coming to the fore in the classroom was described as embarrassing, due to peers' observations of these difficulties. Although not limited to the school environment, participants expressed how challenges with sharing mental health difficulties with peers and friends were unhelpful to their mental health. Furthermore, conformity and hiding aspects of oneself were also noted as social aspects of school which could exacerbate mental health difficulties. One participant shared their experiences of mental health difficulties in the context of school through both their photography and their discussions in the focus group, as captured in the following excerpt:

> This is my photo, it's the daffodils in my garden and I made sure to include the wall behind them cos of.. in the sense of.. it's based on school and feeling trapped, cos everything is really structured, and how some people can flourish in that and there's no problem but some people kind of break in that and wilt and it's not for everyone.. [..]. For me and my own self-harm, I know that it was kind of a thing that school contributed to, it wasn't the main factor, it was a contributory factor definitely, it feels like there is no control over your own self and identity because you do have to dress like this, you need to do this right in this right way (UX851).

Finally, some participants' experiences with school mental health supports were perceived to be largely unhelpful to their mental health. Firstly, some participants described awareness campaigns, one-on-one interventions (such as mindfulness) and classroom-based activities as unrelatable and 'childish'. Secondly, mental health workshops and awareness days (even those perceived favourably) were described as unhelpful due to their infrequency, with

participants expressing the importance of these initiatives on a regular basis throughout their entire years of schooling.

SCHOOL PERSONNEL AS "FRONTLINE" FOR SUPPORTING ADOLESCENTS WITH THEIR MENTAL HEALTH: A DOUBLE-EDGED SWORD

Participants believed that school personnel were ideal candidates to identify and assist adolescents with their mental health. Despite the expectation that school personnel (including teachers and counsellors) should be frontline in supporting adolescents with their mental health, perceived structural, interpersonal, and professional barriers were described to hinder support.

Perceived kindness, empathy and availability were described as key characteristics of supportive school personnel (including teachers, counsellors, coaches, and principals). Many participants described the importance of being treated with kindness and feeling understood when engaging with school personnel who support adolescents with their mental health. Some participants indicated their preference for support from younger school personnel, due to the perception that they are more understanding of the issues that can impact adolescents' mental health today. Moreover, the knowledge that participants could reach out to a supportive school staff member at any time during school if needed, was key to feeling supported with their mental health in school. What was integral to this perception was the informal relationships between adolescents and school personnel supporting adolescents with their mental health, particularly with reference to teachers whom some participants described as a type of friend.

Many participants identified guidance counsellors as key school personnel to support adolescents with their mental health, with most participants who received school-based mental health support engaging with counsellors. Participants identified teachers as having the potential to be particularly important in supporting adolescents with their mental health, given teachers' enhanced capacity for both proximal and emotional closeness with adolescents, in

comparison to counsellors whom adolescents more seldomly interact with. The following excerpt illustrates one participant's positive experience of being supported by their guidance counsellor, who was also their teacher:

> When I was in third year I had really like, bad anxiety [..] I don't know if it was because my guidance counsellor was my teacher as well in school [..] so I'm not sure if that had anything got to do with him being extra supportive [..] but he said I could come to him any time and I had appointments with him every week, and am, he was really helpful and he really helped me when I was under a lot of stress (HD567).

In contrast, some participants expressed dismay with school personnel being perceived as key individuals to support adolescents with their mental health, due to perceived structural, interpersonal, and professional barriers hindering support. Many participants believed that teachers, principals, and guidance counsellors had multiple responsibilities in their roles, which impinged their capacity to support adolescents with their mental health. Participants felt that there were not enough school personnel dedicated to supporting adolescents and that there was a need for school personnel who had the designated and sole responsibility of supporting adolescents with their mental health. Although guidance counsellors were described to most commonly support adolescents with their mental health, guidance counsellors were also subject teachers for some participants. Moreover, guidance counsellors were largely perceived to provide guidance concerning professional development, in comparison to mental health support. Furthermore, many participants stated that there were not enough guidance counsellors available to support adolescents with their mental health. Moreover, school personnel were perceived as not always having the capacity to support adolescents with their mental health. Teachers were described as having the potential to impact adolescents' wellbeing both positively and negatively, given the important role that teachers have in adolescents' lives. Some participants felt that teachers who were dismissive of mental health should not be tasked

with supporting adolescents. Moreover, some participants who were receiving school-based support felt that their mental health difficulties were too complex to be addressed adequately in school and were referred to their general practitioner. One participant who was experiencing suicidal ideation shared their discontentment with their external referral for support:

> Instead of sending me to the counsellor or anything like that they just told me to go to the general practitioner, and, am, I basically just had to, basically kind of forced to say 'oh I am fine' or whatever, something like that, to my GP, like everything with me is okay and that I could go back to school (YC512).

THE NEED FOR ADOLESCENTS' INVOLVEMENT AND (TYPICALLY UNHEARD) VOICE IN SCHOOL MENTAL HEALTH

Participants perceived adolescents' involvement in school mental health as integral for effectively targeting adolescents' mental health. However, a lack of adolescents' involvement and voice in key pillars of school mental health, such as school mental health initiatives (i.e., mental health awareness days), school-based interventions (i.e., peer-delivered programmes) and student consultation spaces was central to participants' experiences. Participants felt that the lack of their voice extended to wider aspects of school.

Many participants felt that adolescents mostly passively received school mental health supports which lacked consultation with adolescents, from one-to-one supports (including mindfulness interventions) to group approaches (including class-based interventions). Participants believed that sharing adolescents' lived experience with mental health could enhance the relevancy of supports. Furthermore, participants recognised the need for school mental health initiatives, including mental health programmes, which align with the unique contextual needs of schools, given the diversity of schools' needs and issues. Participants believed that diverse adolescents' voices informing approaches to mental health in school were needed to ensure that supports could be helpful. One participant shared their belief about the

importance of involving adolescents in the process of identifying what targets are needed for school mental health and suicide prevention given the diversity of schools' needs, in the following excerpt:

> Even if any programme came in [to the school] and we had a focus group like we're doing now about the issues in that particular school and what could be targeted I think that would do a lot more good than a one size fits all approach to their programmes [..] we all have different issues in a mixed school, all-girls schools, all-boys schools, so I think that the issues are so different and how people deal with the issues are so different, that dealing with individual student bodies, rather than you know people sitting in a room deciding this is the programme were rolling out and going with that in every school, it won't have the same effect as "what are your issues and how can we help?" and work on that and then go back to the school with a sort of tailored approach. (UX851).

Peer-delivered school mental health programmes were one type of intervention that some participants felt would actively involve adolescents. Having adolescents involved in peer-delivered school mental health programmes may circumvent generational differences between adolescents and adults, which could lead to adolescents feeling more at ease and understood in sharing their experiences with peer helpers. Two of the participants who engaged in peer-delivered interventions shared their positive experiences with and beliefs about these interventions, with benefits described for both themselves as peer helpers and for the peers engaging with the intervention as a recipient. Recipients were perceived to develop confidence and have improved mental health through sharing their experiences, while peer helpers developed greater mental health literacy and skills through supporting peers. Conversely, participants did have concerns that peer helpers could become overwhelmed and may not be

confidential in their role. One of the participants described the peer-delivered programme they took part in through discussion of their experiences and visually through their photograph:

> When I was in transition year I was part of this group we used to call peer education and we, am, got trained on how to like, say for our school we did like, we presented a Powerpoint to help people come to us, if they wanted to talk to someone we could direct them to a counsellor or something [..] When we were in peer education we learned about the mental health balance. There is going to be things in your life that negatively impact your mental health, but it is very important that you have positive impacts that balance out so you're not weighed down by the negative. (HD567)

Moreover, there was a shared sense of apprehension that enhancing adolescents' voice and involvement in school mental health may not result in meaningful change, with participants alluding to adolescents' lack of agency in the school environment. Participants shared the need to strengthen links between adolescents and adults in the wider school context, for productive (and much-needed) student-school personnel collaboration in mental health initiatives. Suggestions included involving impartial adults (i.e., non-school personnel) in such collaborations, harnessing mutual respect between school personnel and adolescents, and student anonymity when providing feedback to school personnel.

Finally, many participants recognised that meaningful involvement and voice lacked in existing student consultation spaces in schools, such as student councils. Participants (both representatives and non-representatives of student councils) believed that student councils did not harness agency to make meaningful and youth-led changes. One participant described adult selection of student council representatives in their school. Another participant who was a student council representative highlighted the lack of opportunities to get to know and consult with students in their school.

Discussion

We explored adolescents' experiences with and beliefs about school mental health and suicide prevention, using reflexive TA within a critical approach. Our findings support schools as a key setting for supporting adolescents, with school environments, personnel and supports identified as considerably impacting on adolescents' mental health, in both positive and negative ways. Our findings contribute to the understanding of adolescents' perspectives on their voice and involvement in school mental health in the wider literature and are among the first of their kind in the Irish context. Methodologically, our research addresses a clear gap in emancipatory-focused, participatory-based studies exploring adolescents' perspectives on school mental health and suicide prevention.

Broadly, our findings align with international research investigating schooling experience determinants of adolescent mental health. Firstly, findings from 13 countries similarly show that academic-related pressures undermine the positive aspects of the school environment (i.e., provisions of support, learning, safety and socialization) on mental health (Johns Hopkins Bloomberg School of Public Health and UN Children's Fund, 2022). Secondly, young people's difficulties accessing school mental health supports was also reported in Canada and Australia (Bowers et al., 2013; Marinucci et al., 2022). Thirdly, young people in Canada and the UK similarly perceived teachers to have limited capacity to support young people's mental health (Bowers et al., 2013; O' Reilly et al., 2018). Fourthly, students in Thailand also perceived teachers to play a key role in suicide prevention (Chaniang et al., 2022). Finally, research conducted in the UK, Scandinavia, and Australia similarly reported perceived barriers of structural, interpersonal and professional nature hindering young people's attainment of support from school personnel (Ekornes, 2020; Kostenius et al., 2020; Marinucci et al., 2022; O' Reilly et al., 2018).

Participants identified school personnel as having the potential to play a key role in supporting adolescents with their mental health, which aligns with research demonstrating that adolescents in Australia had a preference for teachers in a supportive capacity (Marinucci et al., 2022) and were less likely to seek out formal mental health supports, including mental health professionals or general practitioners (Grové & Marinucci, 2022). Furthermore, our finding that adolescents were unsatisfied with referral to external mental health supports resonates with findings that: (1) at-risk adolescents in the US negatively perceived external interventions, administered with little consultation with adolescents (Kodish et al., 2020), and (2) that school's referral of at-risk young people to external supports led to decreases in help-seeking behaviours, due to young people's desire for support from school personnel (Evans & Hurrell, 2016). Adolescents' experiences of external referral in our study align with school mental health policy in Ireland, which directs schools to refer at-risk students to local health services or general practitioners (NEPS, 2016).

Our findings draw attention to adolescents' awareness of their lack of and desire for adolescents' voice and meaningful involvement in school mental health interventions and student consultation spaces. Previous research also demonstrates that young people perceive youth voice as central to school mental health (Hennessey et al., 2021), but schools do not consult with adolescents to understand their perspectives on school mental health (Marinucci et al., 2022). What is unique to our study is the perceptions that: (1) mental health interventions and consultation spaces lack and need meaningful involvement and voice of adolescents, and (2) adolescents' involvement and voice may not result in meaningful change in school mental health, given their lack of agency in the school environment. These insights align with the critical perspectives' assumption that individuals are impacted in their daily lives by power inequalities (Leavy, 2017), which are likely more evasive for adolescents in school settings, given the unavoidable imbalances between school personnel and students (Fielding, 2004). We

contextualise our findings in terms of 'Adultism', which has an underlying assumption that adults are more knowledgeable about issues relevant to young people, leading to decision-making by adults on youth-centred issues (Teixeira et al., 2021). Issues of adultism likely extend to the wider school setting. Despite the introduction of student councils in Irish post-primary schools in 1992 as a forum for addressing matters concerning youth, in response to the UN Charter on the Rights of the Child, it has been argued that student councils have become tokenistic and exclusionary through a lack of consultative youth voice (Fleming, 2015), which is further evidenced by our findings.

Notably, adolescents in our study recognised the need for diverse youth voice in identifying and improving school mental health and suicide prevention, which aligns with emerging recommendations for enhancing school mental health through the employment of interventions which target socio-cultural elements of school life (Jessiman et al., 2022). Moreover, participants identified peer supports as a key way to support adolescents' mental health in school, which aligns with findings among Thai adolescents demonstrating that peer supports were considered a key suicide prevention strategy (Chaniang et al., 2022; Ekornes, 2020; Kostenius et al., 2020; Marinucci et al., 2022; O' Reilly et al., 2018). In our study, central to the positive perceptions of peer-delivered interventions was that peers are accessible and relevant to adolescents. Similarly, young people perceived peers as more understanding when providing mental health support (Johns Hopkins Bloomberg School of Public Health and UN Children's Fund, 2022). Despite peer-led mental health interventions having the potential to target various mental health outcomes (i.e., suicidal behaviours and depression), and showing evidence of positive development in peer leaders, evidence of intervention effectiveness is lacking (King & Fazel, 2021).

METHOD AND DATA REFLECTIONS

Given that participants were involved in an advisory capacity in a mental health organisation, our sample likely had greater mental health literacy and interest in comparison to that of the general population. Purposive sampling of young people involved in mental health organisations has been previously used in qualitative mental health research (Mawn et al., 2016). Furthermore, our sample size of 14 participants is similar to other school mental health-related studies using focus group methodologies (Marinucci et al., 2022) and incorporating photovoice (Hergenrather et al.2009; Vélez-Grau, 2019). Our sample size aligns with our aims to maintain particularisation rather than aiming for generalisation of contextualised samples (Kaluzeviciute et al., 2022).

It is important to consider the potential impact of COVID-19 restrictions on our data. A notetaker is recommended in focus group research to record non-verbal interactions (Hergenrather and Rhodes 2008; Rabiee 2004), however, this was not possible in our study due to COVID-19 restrictions. During the focus groups facemasks may have hindered non-verbal communication, which may have further impacted the degree to which participants felt comfortable interacting with one another, a fundamental aspect to focus group methodology (Hergenrather & Rhodes, 2008; Tong et al., 2007). Given the rich generated themes in our study, we believe the rapport and trust developed during the MYSTORY study mitigated the potential negative impacts of COVID-19 restrictions on our findings.

Research locates children's voices within adult-designed frameworks of power, including participatory methods (Spencer et al., 2020). A difficulty in research exploring sensitive topics is the need for adult-driven decision-making, such as the confidentiality breach incorporated in MYSTORY, which was informed by standard procedures in child protection (Department of Children and Youth Affairs, 2017). Despite the unavoidable impact of power in our research, we believe that our rigorous methodology ensures that biases related to power were kept to a minimum. Similar to previous studies, our study design was constrained within

parameters governed by (lack of) funding (Luescher et al. 2021; Pincock and Jones 2020), resulting in aspects of the MYSTORY study which could not pragmatically involve adolescents.

IMPLICATIONS

The parallels of our findings demonstrating the impact of school on adolescents' mental health with research conducted in various cultural contexts, warrant international-wide responses in research, policy, and practice which strive to ensure that schools help (and not hinder) adolescents' mental health.

Internationally, there are calls for decision-makers to centre mental health and wellbeing efforts on the voices of young people (The Lancet, 2022). Realising the potential of school mental health and suicide prevention will not be possible without youth voice. A lack of youth voice in the school settings contrasts with the mandates of Article 12 of the UNCRC, and therefore, more research is needed to further investigate the extent to which adolescents are involved in school mental health and suicide prevention. The participatory approaches employed in the MYSTORY study may offer a model for engaging adolescents to understand their unique perspectives on and experiences with school mental health and suicide prevention. Given the likelihood that student voice policies will considerably vary in both content and enactment across different types of schools (Skerritt, O'Hara, et al., 2021), we urge decision-makers to advocate for youth voice in school mental health policy in ways which recognises schools' needs.

Ireland's policy for enhancing school mental health aims to improve key areas by 2023, including *Relationships and Partnerships,* which further aims to have suitably qualified school personnel to support young people with personal and social needs and crises (DES, 2019). Beyond Ireland, the US Healthy People 2030 goals aim to increase the number of adolescents who have an adult available to support them (Office of Disease Prevention and Health

Promotion, 2022). As such, our findings that adolescents would like more school personnel designated to support them with their mental health, in the context of National and International youth wellbeing policy aims, strengthens the need to increase the accessibility and availability of school personnel who can support adolescents with their mental health. Schools under the directive of policy mandating that at-risk adolescents are referred on to external supports should ensure that adolescents receive a transparent explanation of this process and why it is in place, to alleviate unmet expectations relating to follow-up supports for at-risk students. If there was scope to alter existing processes surrounding external supports referral based on youth voice, schools could incorporate guidelines such as *NICE guidelines for the management of self-harm in the UK* into policy focusing on intervening with at-risk students. NICE guidelines advocate for the important role of school personnel and are evidence-based guidelines informed by young people's voices (ACAMH, 2022).

We recommend that researchers consult with young people to enhance research relevancy and acceptability. International calls are increasing to involve young people as co-researchers and place greater value on young people's perspectives in research (MacSweeney et al., 2019; Schelbe et al., 2015). We recommend involving young people in research, in ways which are stimulating, empowering and beneficial for young people, through participatory research methods. However, we do recognise the challenges to involving young people in research, with less than 1% of health-related studies concerning young people including youth input (Sellars et al., 2020). Greater avenues for funding and resources are needed to support young people's meaningful involvement in the research process.

We recommend the following to school decision-makers based on our findings: (1) mental health promotion should be should evident across schooling years; (2) the links between academics and adolescents' mental health need to be carefully considered; (3) facilitate rapport building opportunities for adolescents and school personnel; (4) greater accessibility of school

personnel to support youth mental health; (5) consult with adolescents so that they can fully understand the extent to which schools can provide support (particularly where suicidal thoughts and behaviours are concerned); and (6) involve adolescents in school mental health and suicide prevention, from identifying critical intervention targets specific to their school's needs, to delivering evidence-based interventions to peers.

CONCLUSION

Our findings address important and timely gaps in understanding adolescents' experience with and beliefs about school mental health and suicide prevention. Schools have the potential to be a key setting to support adolescents with their mental health, but school mental health promotion and suicide prevention must be shaped by youth voice and the specific needs of school contexts must be given due consideration in the scaffolding of school mental health supports. Our findings are relevant to researchers in the field of school mental health, and more broadly interested in youth wellbeing, youth public health and education.

CHAPTER SEVEN

Experiences of adolescents in Ireland with engaging in the MYSTORY study

Manuscript five: Walsh, E. H., Herring, M. P., & McMahon, J. (2023). Experiences of young people in Ireland engaging with the mental health of youth story (MYSTORY) photovoice study. *Under review with Journal of Creativity in Mental Health*

Status: under review

Contribution: EW contributed to the study as follows:

Identified the research objectives

Led the study concept and design

Led the facilitation of focus groups

Data transcription and initial coding

Theme development, refinement and finalisation

Drafting and critical revision of the manuscript for submission for peer-reviewed publication

Aim of Study: An objective of this study is to explore the experiences of adolescents in Ireland who engaged in the MYSTORY study. A secondary objective of this study is to provide an in-depth description and reflection of the methods and procedures used in the MYSTORY study.

Contribution to PhD and State of the Art: Reflexive TA within a critical approach generated the following three themes relating to school mental health and suicide prevention: (1) Understanding, expressing, and discussing mental health: from photograph to exhibition, (2) Delving into the unknown, facing challenge and experiencing pride and growth, and (3)

Amplifying youth voice; the importance of being actively involved and connection with others. Our findings demonstrate the MYSTORY study as a unique, creative, and youth friendly study which enabled reflection on and discussion of mental health, from personal mental health experiences to school mental health and suicide prevention during the study activities as well as in the wider community as part of the exhibition.

Alignment with PhD programme of research: The benefits of engaging adolescents in a participatory-based story which incorporates story telling, connection and agency, aligns with the findings in chapter 5 showing the importance of personal experience sharing, trusting relationships and connection with peers, facilitators, school personnel and schools in PSSP interventions. Furthermore, this study is centred on the importance of considerations to power and participant-researcher relationships, which was identified to lack in the field of PSSP. Taken together, these findings provide important insight needed for considerations for future PSSP interventions.

ABSTRACT

There are calls to involve young people in matters which concern them, such as youth mental health, which is a key societal interest. Challenges to engaging young people in research concerning mental health topics include navigating challenges related to power relations between adolescents and adults and the sensitive nature of research exploring mental health topics. Participatory- and arts-based research approaches such as photovoice can mitigate these challenges, by engaging young people in youth-friendly ways. Therefore, the aim this study is to explore adolescents' experiences of engaging with the MYSTORY photovoice study in a purposive Irish sample. The MYSTORY study involved photovoice workshops, in-person focus group involving photo elicitation and discussion of school mental health and suicide prevention and a photovoice exhibition as part of a regional mental health event. For this study, online focus groups were facilitated to explore participants (n=12) experiences with the MYSTORY study. Experiential reflexive thematic analysis situated in a critical approach supports the MYSTORY study as a unique, creative, and youth friendly study which enabled reflection on and discussion of mental health, from personal mental health experiences to school mental health and suicide prevention during the study activities as well as in the wider community as part of the exhibition. Participation in the MYSTORY study was associated with enhanced ability to express thoughts, opinions, and feelings, as well as feelings of pride, accomplishment, and connection, all of which were central to participants' experiences of the MYSTORY study. Findings contribute to knowledge on adolescent engagement in participatory- and arts-based methods, and are relevant to researchers in the wider school mental health fields and practitioners interested in supporting mental health and suicide prevention interventions in school settings.

Introduction

Globally, one in seven adolescents experience a mental disorder (World Health Organization [WHO], 2021a) and suicide is the fourth leading cause of death among adolescents (WHO, 2021c). The unprecedented psychosocial and economic impacts associated with COVID-19 could have profound impacts on normative adolescent development, which could further amplify current adolescent mental health concerns (Cannon et al., 2022; Creswell, 2023; Hossain et al., 2022).

Adolescent mental health concerns everyone, but it particularly concerns young people themselves. According to Article 12 of the United Nation's Convention on the Rights of the Child, young people have the right to voice their views on matters which concern them (United Nations Human Rights, 1990). Increasingly, there are calls for young people to have greater involvement in mental health (Simmons, 2021), yet youth involvement is lacking in both mental health (Mawn et al., 2016) and health research more broadly (Sellars et al., 2020). The advocacy/participatory paradigm advocates for inquiry which both involves and positively impacts on young people (Creswell & Poth, 2016). Participatory research recognises young people as experts in issues affecting them and actively involves young people in various aspects of the research process (Montreuil et al., 2021; Water, 2018).

Emerging evidence shows that young people can safely and beneficially engage in participatory mental health research (Braun et al., 2021b; Thorn et al., 2020). A systematic review on youth engagement in mental health research involving youth researchers highlights the complexity to engagement relating to time, expertise and resources, as well as the unique challenges related to navigating adult-youth power imbalances and sensitivity of mental health topics (McCabe et al., 2023). Sensitive research involves the disclosure of behaviours or attitudes which typically remain private which can be challenging to share with others (Wellings et al., 2000). There are challenges associated with researching sensitive topics

(Dickson-Swift et al., 2007), which likely contributes to the discrepancy between the calls to involve young people more meaningfully in mental health research and the actual lack of involvement (Mawn et al., 2016). Although studies have demonstrated young people's reluctance to engage in discussion about mental health topics, such as suicide and self-harm (Chen et al., 2022; Mirick & McCauley, 2022), youth participants largely want to voice their views on mental health (Marinucci et al., 2022; Mawn et al., 2016).

Given the considerations to both power imbalances and sensitivity of mental health topics, it is integral to consider and explore the usefulness of youth-friendly research methods. Studies investigating youth mental health have previously employed creative methods such as drawing (Kostenius et al., 2020), draw and tell method (Goodwin et al., 2023) and imaginative thinking and a storybook approach (Hennessey et al., 2021) to support the exploration of young people's perspectives on youth and school mental health needs and supports. Goodwin and colleagues described the draw and tell method as a useful tool for 'rebooting' discussions around mental health services by providing context to topics which could be uncomfortable to discuss. Furthermore, Hennessey and colleagues reported that the storybook approach supported the discussion of sensitive mental health topics and enhanced the accessibility and age-appropriateness of the focus groups, which ultimately contributed to sharing authentic insights.

Photography is a youth-centred way for young people to articulate their voice (Abma et al., 2022a; O'Latz, 2017). Photovoice is an arts-based method merging photography with participatory methods (Leavy, 2017) which facilitates reflection, articulation and discussion of realities and enables the building of rapport, youth agency and social action (Hergenrather et al., 2009; Wang & Burris, 1997; Wang & Redwood-Jones, 2001). Photovoice is useful for exploring the unique and contextualised experiences of young people in youth-centred ways (O'Latz, 2017; Wang, 2006). A photovoice study exploring adolescents' experiences with and

expertise in mental health services demonstrated adolescents' satisfaction with creating something meaningful, self-reflection and building social support (Vélez-Grau, 2019). Furthermore, a scoping review of the use of photovoice in mental health research demonstrates that photovoice is an emergent, flexible, adaptable, and inclusive participatory research method, with capacity to serve diverse research interests and aims (Stephens et al., 2023).

There is a need for greater understanding of adolescents' experiences of engaging in photovoice studies which aim to explore mental health topics given the particular considerations to this work. Therefore, the objective of this study is to explore the experiences of young people in Ireland who engaged in the MYSTORY study, a university-community partnership in Ireland, which engaged adolescents aged 16-19 years in a photovoice study, involving photography, photo elicitation and a photovoice exhibition. Furthermore, a secondary objective of this study is to provide an in-depth description of the methods and procedures in the MYSTORY study.

Methods

Chapter 6 and the corresponding publication (Walsh et al., 2023b) overviews the study theoretical framework and reflexivity, participant recruitment and consent/assent procedures, participants characteristics, the role of the MYSTORY gatekeeper in the MYSTORY study, and the procedures and the findings generated from the in-person focus groups. The wider aims of the MYSTORY study were to: (1) better understand young people's perspectives on youth and school mental health and suicide prevention, and (2) communicate these perspectives to schools, communities, and the wider public. The MYSTORY study involved preparatory online photovoice workshops, in-person focus groups involving photo elicitation and discussion of perspectives on school mental health and suicide prevention, a photovoice exhibition as part of a regional mental health week in Ireland and online focus groups exploring participants' experiences with and perspectives on engaging with the MYSTORY study, the

latter of which is the focus of this chapter. Figure 7.1 visualises the components and the timeline of the MYSTORY study up until the exhibition.

Participants aged 16-19 years (*n*=15) and a YPAG (*n*=6) were identified through the community partner's advisory panels for the MYSTORY study. Purposive sampling of young people involved in mental health organisations has been previously used in qualitative research exploring participants' engagement in mental health research (Mawn et al., 2016) and experiences of receiving mental health services using photovoice (Vélez-Grau, 2019). The MYSTORY study engaged young adults aged 19–24-year-olds as advisors to the research in the form of a YPAG. Attendance was optional as YPAG members were not renumerated, and we frequently co-identified with the YPAG to understand their desired involvement in the MYSTORY study. Participants engaged in the photovoice activities, whereas the YPAG informed on aspects of MYSTORY including the youth experience (i.e., how the participants may perceive their positioning in the MYSTORY study), aspects of the photovoice method (i.e., the photography theme and exhibition) and data collection methods (i.e., the focus groups). We also consulted with the participants themselves to tailor aspects of the MYSTORY study, including the workshops and the photography task. We evaluate MYSTORY as *Youth consulted and informed* based on Roger Hart's Ladder of Young People's Participation, which is defined as research which engages young people to advise on research projects, in order to increase the relevance of the research (Funk et al., 2012).

Photography

Photovoice is an accessible research method for participants to reflect on and express their viewpoints and feelings through ideating on, capturing and sharing photographs. Photovoice is particularly useful for research exploring sensitive topics with young people (Wang, 2006), which can be challenging to discuss in traditional focus groups (Punch, 2002;

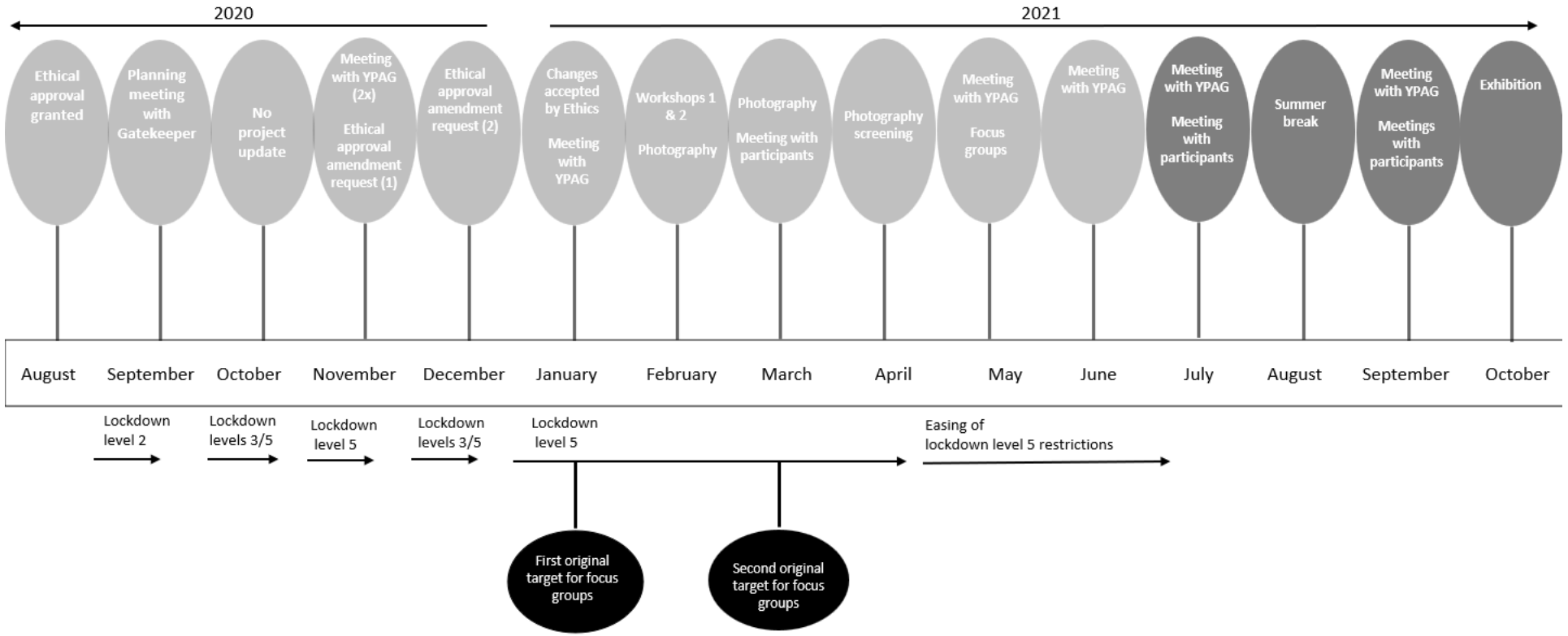
Wellings et al., 2000). The use of photovoice is well situated in our theoretical framework, which seeks to explore the unique and contextually-specific experiences of adolescents in our sample (Creswell & Poth, 2016) in youth-centred, beneficial and agentic ways (O'Latz, 2017). Participants were free to focus on various aspects of mental health in their photographs, including personal, community and school mental health. The non-assumptive theme was broadly defined and informed by the YPAG to allow for the inclusion of diverse experiences and perspectives, which is an important component of photovoice methodology (O'Latz, 2017).

Two preparatory photovoice workshops were facilitated by EW, JMM, the MYSTORY gatekeeper and a professional photographer (who was also a YPAG member) on Microsoft Teams (a software that the participants were proficient in using in their everyday lives). The workshops had the following aims: (1) to build rapport between the researchers and the participants, (2) to overview mental health topics relevant to MYSTORY, such as youth and school mental health and suicide prevention, (3) to empower the adolescents in their active participation in the MYSTORY study, and (4) develop the practical skills needed to engage in the MYSTORY study (i.e., photography skills and ethical considerations, in line with O'Latz [2017]). JMM and the MYSTORY gatekeeper were responsible for monitoring the online chat and questions, while EW lead the PowerPoint presentations. Workshops were interactive, developmentally appropriate, and goal-oriented, similar to previous procedures (Pincock & Jones, 2020; Vélez-Grau, 2019). Workshop/focus group ground rules were co-designed in workshop one with the participants to guide the collaboration between the researchers and the participants. Ground rules included respecting everyone's contributions even when there are disagreements and committing to not sharing experiences and insights discussed in the workshops/focus groups beyond the MYSTORY study. Workshops began with youth-oriented ice-breaker activities, such as modified eye spy and an adapted version of the "My Favourite Thing" exercise (Thomson & Hadfield, 2014), which involved the discussion of an object

belonging to each of the participants, the researchers and the MYSTORY gatekeeper, which represented mental health in their lives. Ice-breaker activities were important for building rapport between the participants, the researchers and the MYSTORY gatekeeper, and providing space for the participants to practice reflecting on and discussing mental health topics.

During workshop 1 EW and the photographer collaborated on an audio-visual presentation focusing on photography skills, photo ideation, photo elicitation, storytelling and ethical considerations (i.e., the importance of permission to take photographs of others) (O'Latz, 2017). The photographer (who specialised in photography representing mental health) also shared their experiences of representing mental health experiences and perspectives in their own photography. During workshop 1 participants were tasked with taking one photo to share at workshop 2, which could represent aspects of mental health which the participants wanted to focus on. A protocol outlining types of non-appropriate content for photographs, including violence and discrimination, was shared with the participants in the workshops and through email. Participants and their parents/guardians provided consent for sharing photographs in line with recommended photo sharing procedures in photovoice (O'Latz, 2017) which were approved by our institution's ethical approval committee. Photo release forms for participants and parents/guardians are shown in Supplementary Figure 7.1 and Supplementary Figure 7.2. At the end of workshop 1 participants had opportunities for feedback, discussion and to input on what they felt needed to be covered in the next workshop.

Figure 7.1 *The Timeline of the MYSTORY Study*



Note Lockdown levels are National as opposed to regional levels.

Table 7.1

Coding Table of Themes, Codes, and Exemplar Quotations

Theme name	Codes	Exemplar quotations
Understanding, expressing, and discussing mental health: from photograph to exhibition	Mental health as a scary topic to discuss Intensity of discussing mental health topics and experiences Discussing mental health topics as sometimes challenging Stigma related to sharing perspectives on mental health Uncertainty about engaging with mental health projects The personal aspect of mental health contributing to fears around discussing mental health Expressing mental health perspectives using photography as enjoyable Having an adult listen to perspectives and experiences related to mental health a positive thing Expressing mental health perspectives using photographs helpful for relieving tensions associated with discussing mental health topics	Talking to anyone about anything got to do with mental health at all? Like it's, it's a scary topic and it's so personal. So I knew I was gonna be scared. (UV876) I think it was a really cool idea because obviously talking about like topics like this and topics around mental health are really intense and like sharing our experiences was really intense. So like having that kind of like creativity to, like, kind of express ourselves through that creative form of like taking photographs was really nice. I just thought it was it was a great idea to be able to stop and like take pictures and to be able to like stop and think about mental health and what it means to us (OY720). I think they [photographs] really helped when we were in the focus group to kind of start conversations, like when people were describing what their pictures meant to them, it, like, sparked a different conversation that kind of got you thinking a little bit more. Whereas like I feel like if we just gone into the focus group without anything to start a conversation, it would have been like the generic things that always pop up around mental health, whereas like the photos gave us a chance to think differently and to think about and kind of, things you usually wouldn't be thinking about or like things that aren't like things that we

	Sharing photographs in the focus group useful for starting focus group discussion Capturing and sharing photographs providing an escape from reality Taking photographs as part of MYSTORY allowing for reflection on mental health Reflecting on mental health in a creative way as an enjoyable experience Sharing and discussing photographs in the focus group useful for broadening the focus of discussions Sharing and discussing photographs in the focus group facilitating new reflections on mental health The small, trusted group setting provided a space to share one owns' mental health experiences MYSTORY offering alternative, creative ways to express mental health topics Exhibited photographs providing a jumping off point for discussions at the exhibition launch Exhibited photographs having the potential to start important conversations about mental health in the community	haven't experienced and kind of for me anyway, it like brought me out of like what I usually talk about around mental health and like it's made me think about other things. (BC698) It's good for people as well who go to the, you know, say those who saw the exhibition to say like "oh", to look at a photo say " oh look that's how I feel " or like "that's how I feel about mental health" because it's a lot easier, I think it's easier to start discussion that way, then just like, talking about it. (WB763) I feel like, talking about it for me was much better to give out a message, and like to give out meaning, and then with the photograph, like talking about the photograph was almost, not completely different, but it was it, it just captured a different message than, am, what I feel like, I did with the focus group and both of them are very like, both of them are like, you know, messages like about mental health that I did want to get across, but in the focus group, I thought it was much easier to get my points across because it wasn't like, it was direct, it didn't give off like a feeling it didn't give off like, like show it, like I just told it like it was, you know. (PF573) When we were taking the photos, I think I said this before, but like, I enjoyed that, it kind of got us out of the house during COVID, like even if it was just to go on like a small walk if we were taking a photo of scenery outside, it got us out, it got our minds off of, like, school, exams, COVID because we were also doing, like, the school online I think during that, so it was nice to just get away from like the screens and just

	Easier to communicate perspectives in the focus group by speaking compared to discussing photographs in the focus group Preference for discussing mental health directly in the focus group Taking photographs representing mental health a unique experience The need for opt-in opt-out if applying aspects of MYSTORY to schools The potential of photovoice to facilitate reflection of mental health perspectives in the school setting The potential of photovoice to authenticate mental health discussions in the school setting	try to think about something we could take it a nice photo of, with like meaning behind it. (DN802) I feel where school misses the mark with, am, talks surrounding mental health is that they are very "this is what young people are", "this is what is what young people think" and they're very statistic based. I feel with the MYSTORY project it was, there was a really strong input from the young people that were involved in it and if it was in schools, am, to follow up with something similar to what UV876 and BC698 said, not everyone would have an interest in it, so if we were to be in schools, I feel like it should be optional, because if it was mandatory, If you had to do it, then not everyone will take it seriously as it should be taken. (ZP863) I feel like it was, am, was a great starting point to be able to have the pictures, to be able to like open conversations with other people. If it was to be in schools or like in a focus group, you know like just to like get things like started rather than just like going into a room and like what was like BC698 was saying earlier, like if somebody just says "how do you feel about mental health" and it's like kind of the same things that keep popping up but if you give like, if you give a young people like a chance to like go home and think about it and then like present something like a picture or even like a drawing or like even like an object or something in their life that like helps them with their mental health or like helps them to be able to describe how their feeling kind of thing. (OY720)
Delving into the unknown,	The MYSTORY study as a whole new experience	It was, it was interesting. It was nerve wracking at the beginning because there was a bunch of people there and it was like showing off

facing challenge and experiencing pride and growth	Being part of the exhibition as something unexpected to be a part of Deciding on and capturing photographs as a therapeutic activity which provided an escape from reality Gaining knowledge on mental health from listening to other adolescents' experiences in the MYSTORY study Challenges of sustaining attention when engaging with the online elements of MYSTORY in comparison to in-person engagement Challenges in deciding design aspects of the exhibition Challenges in deciding on the focus of photographs Challenges with sharing the interpretation of photographs Challenges engaging with aspects of the MYSTORY study due to gaps of time between MYSTORY components Contentment in knowing that people in the community could engage with the exhibits Engaging in the MYSTORY study resulting in fond memories Concerns about taking the 'right' kind of photographs to represent the MYSTORY study	like your, kind of, creative ability to express something through one simple picture, uhm but it was also really, I don't really know, it was, it was interesting. It was fun. It gave me amazing sense of accomplishment seeing them there, and how they were up for so long and kind of, seeing kind of, like seeing your name attached to something, that is, like so important, it kind of just felt, really amazing. (LT763) Uh, I guess like being able to like share different things, no matter how [inaudible] they are, through something as simple as a picture and having so many people do that and have that be shown to so many people who could just walk in [to the exhibition] whenever they want to be able to see it, I don't know, it was just really nice to be able to, like, be a part of that and stuff and yeah. (LT763) I think mine was taking the photos as well, I really liked, like sitting down and thinking about like, "Oh, what do I want to take photos of"? Like, what do I want to photograph that will have the meaning behind it for me? So I, I enjoyed that and then, like, picking the photos and like, picking, which ones out of the few I took that I think would speak out the best for me, I liked to doing that as well. (DN802) For me, I just thought some of the meetings were too far apart, so like, if there are like two months or something, I'd kind of forgotten, just get off track on what we are doing. (FS746) I don't really like the online because I feel like oh I might zone out or I might not be paying enough attention, whereas the in person stuff I loved doing because we're all like hands on and active with it. (DN802)

	Challenges navigating the broadness of the photography theme Feelings of accomplishment at the exhibition A sense of accomplishment from expressing yourself for everyone to see through exhibited photography A sense of pride in one's name and photo being shared as part of the exhibition Concerns of experiencing judgement from exhibition launch attendees Challenges in ideating on the photography theme Feelings of pride of being part of the exhibition A sense of pride from overcoming concerns of how people would perceive the exhibits Enhanced confidence from engaging with the group of adolescents engaging with MYSTORY Enhanced ability to express perspectives related to mental health Enhanced ability to express feelings and emotions Enhanced ability to express thoughts and opinions after engaging with the MYSTORY study	I had a bit of mixed feelings leading up to the exhibition because I've never had something of, something like that that I've worked on and spent time on and that I was kind of proud of and be on display to people to see and then I was thinking, it was leading up to it and I was like "Oh My God, people are going to see the stuff that I've worked on, they're going to judge it" but then it got to the day and I was like, wow, I'm proud of myself and it was, it was nice. (ZP863) I feel like I got more confidence with like, talking out to groups and I think like with expressing, kind of like my emotions, or like what I'm thinking, or why I even did something. I feel like it got me more confident that, like, talking out about that, to the group. (DN802) I think the just the deciding and you know when we were trying to plan the exhibition deciding what sizes we wanted and the materials was pretty tough. I don't think it was bad or anything, I just think it's the work. I just think it's the my least favourite part of the whole thing, but at the same time I didn't find it bad or anything I just thought it was difficult (WB763) And I, I did enjoy [the focus group], I think the photos were a good way to start talking, but I did find it a bit stressful, because translating feelings into words is definitely difficult, translating feelings into photos is a lot easier, but then translating those photos into a talking topic, it was a bit.. not difficult, but it was.. I didn't really know how to start from going off the photo because it was what was going on in my head translated to a picture, I find it sometimes hard to express myself in words.. So yeah, that's just me. (ZP863)

	Importance of having a goal like the exhibition for motivation to engage with the MYSTORY study	I loved doing the project but the only thing that I found hard was when we were given the task to take the pictures. I kind of find it, I found it hard to like, stop and think about what I should do or if it would, it would have been the right thing to do, because it was such like a broad topic but like, once I figured it out it was, it was good. It wasn't necessarily a bad thing, because I did love doing the project but it was just, it was more of a challenge for me. (OY720) I thought it was useful, because the small groups first of all, and then the for all students who aren't used to it, you know, the idea of having a project at the end, or goal to work towards is good because, am, you kind of, you put effort into it anyway and then it gets you thinking about like mental health. It gets you thinking about what other people think about what you think and it gets you thinking about what you think, what other people think, I think that's a lot of a better way of kind of discussing mental health, because I think a lot of it now in schools is people talking at students you know? and telling them oh you should feel this way or some people feel this way, some people feel that way, but I think it's very like, it's a very, kind of lived experience, like, mental health, so I think the best way to do it is the way that we did with this, just kind of like having project or have discussions or something like that and have a goal in mind at the end, and then I think on their way to like achieving that goal you know figure out on the way what mental health means to you and what it means to other people. (WB763)
Amplifying youth voice; the importance of being	A sense of satisfaction in the freedom of photography theme	We got a very broad, kind of like area to go and like with mental health, it's so broad, we call it. We were able to do like positive impacts of it or negative impacts of it, we were able to go away ourselves and I think about or what do we want to contribute to it, something good or

actively involved and connection with others	Feelings of ownership due to the broad photography theme Strengthening of social relationships among adolescents engaging with the MYSTORY study Agency in photography theme facilitates engagement Agency in ideating and capturing photographs Importance of encouragement in sharing perspectives on mental health Enjoyment in learning about peers during the course of the MYSTORY study MYSTORY providing the opportunity to hear other adolescents school-related perspectives Small group participation in the MYSTORY study facilitative for sharing perspectives and experiences Pre-existing relationships with others involved in MYSTORY facilitative for sharing perspectives Engagement in MYSTORY facilitating adolescents to support each other in sharing perspectives in the MYSTORY study Not feeling obligated to engage in MYSTORY like some school initiatives a positive	something like the good sides of mental health or even the bad sides, how like we really get to show our own into like, bring our own into it (DN802) I thought it was good because we were in a small enough group, so it's easy enough to talk about what you needed to talk about and we also know each other really well, so it's easy to talk about it as well. I think if you're in a bigger kind of setting like school or anything, it's kind of hard to get your point across, so that's what I liked about it when we were doing it (LQ865) I learned that some of the stuff that I've been through, like with school and stuff, it's not and sometimes like.. I would have felt, like, alone that I would have been the only person who felt like that. But talking with everyone in the focus group, but just yeah, I learned that a lot of people have been through similar experiences and it was nice to be able to relate to other people. (OY720) Yeah, it's absolutely worth doing. It's a whole new experience, which obviously can be scary, but the amount of, like, positive reinforcement and like, the expression from others when you share something or, how it could like make you feel like empathetic and stuff when they share something? It's kind of something you don't really want to pass up on if you have the opportunity. (VH865) I thought that it was it was really good to have someone, like, actively reach out to us and like be able to listen to what we had to say and like our experiences on like a sort of equal, like, ground sort of like, rather than like, you know, like a mentor or like, just like someone who's

	Having an opportunity to share experiences on an equal ground in the focus groups Having a supportive adult willing to listen important aspect for sharing experiences Perception that there is knowledge from many perspectives in the MYSTORY study Perception of having opportunities to be involved in sharing perspectives and experiences (which is different to school) Perception of youth input in the MYSTORY study Perception that the participants' perspectives and experiences were central to the MYSTORY study Importance of the perception of actually being listened to Expectation that MYSTORY would be more like a passive interview type of project The potential of the MYSTORY study to provide adolescents with a chance to voice their perspectives The potential of the MYSTORY study to provide adolescents with the opportunities to strengthen supportive relationships with teachers, if applied in schools	actually listening to you and sitting beside you, is like kind of like your friend, if that makes sense.. (PF573) I'd probably tell them that, like it was really, it's a really good experience to do because of what you will learn from it and even what you bring to it as well. It's really exciting to do it, am you're really involved, like, with the group, getting to give your opinions and like show your work as well as seeing other people's work and their opinions like you're, I feel like you get a lot of knowledge from it, from all different sides (DN802) I'd probably say how we basically got to do kind of what we wanted with it, We got a very broad, kind of like area to go and like with mental health, it's so broad, we could, we were able to do like positive impacts of it or negative impacts of it, We were able to go away ourselves and I think about oh what do we want to contribute to it, something good or something, like the good sides of mental health or even the bad sides, how like we really get to show our own into it, like bring our own into it (DN802) It didn't feel like we were getting a rant about anything, or an explanation, it was like our opinions and our experiences were the most important part of it (HB735) I feel like it was a great experience like it was definitely something different from like when I first learned about it. I didn't like, I kind of expected more of a literally just like an interview type of situation, but based off of what we ended up doing, it turned out to be something that,

	The potential of MYSTORY to provide a space for adolescents experiencing similar issues in schools Aspects of MYSTORY could help with stigma in schools surrounding mental health	like, a really good study and like we've done things that I didn't really expect to do, and I think that's really fun overall. (PF573)

During workshop 2, participants shared the photo that they were tasked with taking in workshop 1 and the inspiration and stories related to the photographs. The SHOWED mnemonic is commonly used to structure photo elicitation and was used in workshop 2, but the mnemonic impeded discussion which has been similarly demonstrated in previous studies (Hergenrather et al., 2009). As such, it was decided among the participants, the researchers and the MYSTORY gatekeeper to forego using the mnemonic in the in-person focus group. Based on the feedback from the participants we alternatively developed scripted photo prompts and open-ended questions informed by the YPAG for the in-person focus groups. At the end of workshop 2, the participants were asked to capture three photographs for the in-person focus group over a period of three weeks. The MYSTORY gatekeeper and EW facilitated a check-in online meeting with the participants during the three-week period. Some of the participants shared their struggles with engaging with the photography task due to mental health difficulties and COVID-19 restrictions, the latter of which mandated everyone to remain at home other than for essential purposes at that time (Department of the Taoiseach, 2021). In light of these challenges the deadline was extended to give the participants more time to capture their photographs. Given these challenges, the original target date was extended for the in-person focus groups (Figure 7.1 outlines these changes to the MYSTORY study timeline).

Exhibition

Photovoice can advocate for change and empower individuals through the sharing of photographs and viewpoints in the community and with decision-makers (Wang & Redwood-Jones, 2001), which aligns with critical inquiry goals to emancipate the disempowered (Scotland, 2012). The MYSTORY study photovoice exhibition showcased participants' photographs in a national art gallery and was an official headline event in a regional mental

health awareness week in Ireland. The goals of the exhibition were for young people to share their perspectives and experiences related to mental health and suicide prevention through both their photography and discussions with young people, schools, and community members. The exhibition was co-designed, co-curated and co-launched with young people involved in the MYSTORY study. The MYSTORY gatekeeper facilitated co-design meetings with the young people and consultative meetings were held with youth representatives, researchers, the MYSTORY gatekeeper and the mental health awareness week co-ordinators. The exhibition was installed by the young people involved in the MYSTORY study, EW, the MYSTORY gatekeeper and the gallery curators. Participants and their parents/guardians provided consent for sharing photos, in line with recommended procedures (O'Latz, 2017), which were approved by our institution's ethical approval committee.

The launch of the exhibition was both a community awareness event and a celebratory event to showcase the work of the young people involved in the MYSTORY study. The launch was attended by young people, their families, mental health awareness week organisers and community decision-makers, including the regional Mayor, who formally launched the exhibition. Young people orated at the launch and reflected on their experiences of the MYSTORY study and shared the inspiration for and the key messages of their exhibited photos. Furthermore, young people involved in MYSTORY directly spoke with the regional Mayor and shared their requests and asks for youth and school mental health and suicide prevention. Ultimately, the exhibition launch provided an opportunity for young people involved in the MYSTORY study to interface with community members and decision-makers. A press release detailing the exhibition launch was shared on social media and with media outlets informing the public about the exhibition. Over the month of October 2021, the exhibition was attended by community members and post-primary schools.

DATA COLLECTION

Twelve participants (7 females, 4 males and one individual who did not disclose their gender) took apart in two online focus groups hosted on Microsoft Teams, one in December 2021 (7 participants) and January 2022 (5 participants). Two of the participants who had initially participated in the in-person focus groups could not take part in the online focus groups due to academic commitments. EW led the facilitation of the focus groups and was assisted by JMM/the MYSTORY gatekeeper, who facilitated the technical aspects of the focus group, such as monitoring the chat. Open-ended and non-leading questions aimed to understand experiences (i.e., "What was it like to be involved in the exhibition?") and perspectives (i.e., "What were your favourite and least favourite parts of the MYSTORY study?"). As we were interested in participants' insights into the potential of aspects of the MYSTORY study to be employed in school, participants were additionally asked "Do you think a project like MYSTORY could be useful (or not) in schools? If so, what parts of MYSTORY would be particularly useful/not useful?". EW checked automated transcription accuracy by continuous listening to the recordings.

Analytical approach

Given the incompatibility between COREQ components and our analytical approach, including data saturation and participant data checking (Braun & Clarke, 2019b, 2021b), a critical approach to the COREQ guidance tool for inquiry was taken (Tong et al., 2007). Experiential, reflexive TA was undertaken within a critical approach (Scotland, 2012), to explore participants' experiences and beliefs about the MYSTORY study. Reflexive TA was conducted in line with the reflexive TA guiding tool (Braun & Clarke, 2020). Similar to the reflexive TA procedure reported in chapter 6, EW engaged in a non-linear, evolving and iterative process when coding the data and generating semantic, latent, deductive and inductive themes (Braun & Clarke, 2019a, 2019b) using NVivo12. JMM collaborated in the process by critically engaging with coded data and developing themes, to enhance reflexivity and depth of

interpretation (Braun & Clarke, 2019a, 2019b, 2021a). Researcher's subjectivity and reflexive consideration to theory, data and interpretation were central to analysis (Braun & Clarke, 2020). EW and JMM's collaborative analysis and EW's engagement with the research diary supported reflexive TA, which ultimately presents the participants' experiences with and beliefs about the MYSTORY study situated in an interpretative reflexive process (Braun & Clarke, 2020). Numeric codes have been assigned to excerpts and minor edits were made for clarification and conciseness, as indicated by '[..]'.

Results

Three themes relating to participants' experiences with and beliefs about the MYSTORY study were generated: (1) 'Understanding, expressing, and discussing mental health: from photograph to exhibition', (2) 'Delving into the unknown, facing challenge and experiencing pride and growth', and (3) 'Amplifying youth voice; the importance of being actively involved and connection with others'. Table 7.1 outlines the codes and exemplar quotations for the themes.

UNDERSTANDING, EXPRESSING, AND DISCUSSING MENTAL HEALTH: FROM PHOTOGRAPH TO EXHIBITION

Many participants expressed how the MYSTORY study provided unique and useful ways to understand, express and discuss experiences and perspectives related to mental health. Ideating on, capturing, discussing, and exhibiting photographs provided participants with opportunities to reflect on and learn about mental health, as well as to express their own personal experiences with mental health and engaging with school mental health and suicide prevention. Furthermore, the discussions during the workshops, the in-person focus group and the exhibition launch were highlighted as particularly useful for developing greater knowledge on mental health.

Some participants described mental health topics in general as challenging, intense, and personal to discuss, with associated fear and stigma acknowledged by the participants. Among some of the participants there was a shared sense of apprehension associated with engaging in mental health-related initiatives, from discussing personal experiences with one's own mental health, to engaging with individualised and classroom-based mental health interventions in school. While reflecting on their initial feelings prior to engaging with the MYSTORY study one participant stated: "Talking to anyone about anything got to do with mental health at all? Like it's, it's a scary topic and it's so personal. So I knew I was gonna be scared." (UV876). Engaging in photography was identified as useful for reflecting on and discussing mental health throughout the MYSTORY study. Taking and sharing photographs helped to ameliorate the challenges associated with discussing mental health, which is captured in the following excerpt:

> I think it was a really cool idea because obviously talking about, like, topics like this and topics around mental health are really intense and like sharing our experiences was really intense. So like having that kind of, like, creativity to, like, kind of express ourselves through that creative form of like taking photographs was really nice, because it kinda, they got rid of some of the, the tension or like, the like, the pressure that was on us. (KH814)

Some participants felt that the photographs helped to broaden and authenticate the discussions during the in-person focus groups and at the exhibition. Furthermore, sharing of the key messages and inspirations for photographs during the in-person focus group was described as a springboard for discussions which were more introspective and authentic, as captured in the following excerpt:

> I think they [photographs] really helped when we were in the focus group to kind of start conversations, like when people were describing what their pictures meant to them,

> it like sparked a different conversation that kind of got you thinking a little bit more. Whereas like I feel like if we just gone into the focus group without anything to start a conversation, it would have been like the generic things that always pop up around mental health, whereas like the photos gave us a chance to think differently and to think about and kind of, things you usually wouldn't be thinking about or like things that aren't like things that we haven't experienced and kind of for me anyway, it like brought me out of like what I usually talk about around mental health and like it's made me think about other things. (BC698)

While some participants enjoyed having the opportunity to communicate their experiences and perspectives using photography, others expressed their preference for sharing their perspectives and experiences during the discussions in the in-person focus group. Some participants experienced challenges with translating the messages and inspirations conveyed in the photographs into words and sharing the meaning of the photographs out loud in the in-person focus group. One participant described their challenges with expressing insights conveyed in the photo in comparison to directly speaking during the in-person focus group, as follows:

> I feel like, talking about it for me was much better to give out a message, and like to give out meaning, and then with the photograph, like talking about the photograph was almost, not completely different, but it was it, it just captured a different message than, am, what I feel like, I did with the focus group and both of them are very like, both of them are like, you know, messages like about mental health that I did want to get across, but in the focus group, I thought it was much easier to get my points across because it wasn't like, it was direct, it didn't give off like a feeling, it didn't give off like, like show it, like I just told it like it was, you know. (PF573)

Exhibiting the photographs provided a unique opportunity for the participants to voice their experiences and viewpoints to the exhibition launch attendees. Beyond the exhibition launch participants reflected on the potential of the photographs featured in the exhibition to spark discussions in the wider community, which is captured in the following excerpt:

> It's good for people as well who go to the, you know, say those who saw the exhibition to say like “oh”, to look at a photo say “ oh look that's how I feel “ or like “that's how I feel about mental health” because it's a lot easier, I think it’s easier to start discussion that way, then just like, talking about it. (WB763)

Many participants believed that aspects of the MYSTORY study would be beneficial for enhancing understanding of and discussions surrounding mental health in school. Participants expressed the potential of the photovoice activities to allow adolescents to reflect on and discuss mental health topics in meaningful and authentic ways. One participant acknowledged how the activity of ideating on, capturing and sharing photographs in the school setting could lead to more meaningful and youth-centred discussions, which is depicted as follows:

> I feel like it was, am, was a great starting point to be able to have the pictures, to be able to like open conversations with other people. If it was to be in schools or like in a focus group, you know, like, just to like get things like started rather than just like going into a room and like, what was like BC698 was saying earlier, like if somebody just says “how do you feel about mental health” and it's like kind of the same things that keep popping up but if you give like, if you give a young people like a chance to like go home and think about it and then like present something like a picture or even like a drawing or like even like an object or something in their life that like helps them with

their mental health or like helps them to be able to describe how their feeling kind of thing. (OY720)

However, the need for opt-in and opt-out options was acknowledged, as participants expressed that not all adolescents may have the interest or the capacity to engage in all aspects of the MYSTORY study, given the challenges related to discussing mental health and the varying preferences for using photography to express viewpoints and experiences.

Delving into the unknown, facing challenge and experiencing pride and growth

Most participants described engaging in the MYSTORY study as a completely new experience, which involved navigating challenges and experiencing feelings of pride and growth. Initially, some participants experienced both challenges with deciding on their photography and feelings of uncertainty in identifying the type of perspectives or experiences to convey in the photographs. The broadly defined photography theme coupled with concerns relating to whether the photographs would be well-perceived and considered appropriate for the MYSTORY study by peers in the focus group, the researchers, and the exhibition attendees, was a challenge for some of the participants, which is captured in the following excerpt;

I loved doing the project but the only thing that I found hard was when we were given the task to take the pictures. I kind of find it, I found it hard to like, stop and think about what I should do or if it would, it would have been the right thing to do, because it was such like a broad topic but like, once I figured it out it was, it was good. It wasn't necessarily a bad thing, because I did love doing the project but it was just, it was more of a challenge for me. (OY720)

Some participants shared a sense of embracing the freedom that they had in their decision-making related to their photography, from deciding on the focus of the photographs to selecting their photographs for the in-person focus group and exhibition. One participant

described capturing of and deciding on the photographs as one of their favourite aspects of the MYSTORY study, as reflected in the following excerpt:

> I think mine [favourite part of the study] was taking the photos as well, I really liked, like sitting down and thinking about like, "Oh, what do I want to take photos of"? Like, what do I want to photograph that will have the meaning behind it for me? So I, I enjoyed that and then, like, picking the photos and like, picking, which ones out of the few I took that I think would speak out the best for me, I liked doing that as well. (DN802)

Undoubtedly, COVID-19 made engagement in the MYSTORY study more difficult for some of the participants. Given the gaps of time between study stages, some participants experienced difficulties remembering their motivations for the photography focus and what they had to do for the photography task. Furthermore, some participants felt that engaging online hindered their attention in the workshops. Despite the challenges, taking photographs provided an opportunity for some participants to channel creativity while getting out in the community, which provided a sense of relief and escape from the stresses related to schooling and living during COVID-19.

For many participants, sharing their photographs during the in-person focus group and at the exhibition were both sources of challenge and growth. Participants enjoyed sharing their photographs and listening to the other participants share the key messages and motivations for capturing their photographs. However, for some participants there was a sense of anticipation about sharing photographs, which was worsened by the gaps of time between capturing the photographs and the in-focus group for some. One participant made sense of their challenges with discussing their photograph in the in-person focus group by reflecting on the challenges to expressing oneself in words, as follows:

> I did enjoy [the focus group], I think the photos were a good way to start talking, but I did find it a bit stressful, because translating feelings into words is definitely difficult, translating feelings into photos is a lot easier, but then translating those photos into a talking topic, it was a bit.. not difficult, but it was.. I didn't really know how to start from going off the photo because it was what was going on in my head translated to a picture, I find it sometimes hard to express myself in words.. So yeah, that's just me. (ZP863)

Despite these challenges, many participants experienced personal growth as a result of engaging in the MYSTORY study. Engagement aided learning about diverse mental health topics, and discussions in the in-person focus groups and at the exhibition led to enhanced ability to express perspectives, thoughts and opinions related to mental health, as well as ones' own feelings and emotions, which is captured in the following excerpt:

> I feel like I got more confidence with like, talking out to groups and I think, like with expressing, kind of , like my emotions, or like what I'm thinking, or why I even did something. I feel like it got me more confident that, like, talking out about that, to the group. (DN802)

Many participants described the exhibition launch as their favourite part of the MYSTORY study, with the exhibition a key source of motivation for engagement. Specifically, participants' awareness that their photographs would be included in an exhibition accessible to the wider community was a key motivating factor for engaging with the MYSTORY study. Central to the participants' experiences of pride and feelings of accomplishment in the MYSTORY study was having their names attached to their exhibited photographs, as captured in the following excerpt:

> I've always loved going to art galleries and going into exhibitions and like, seeing my name up on the wall was like, really inspiring and really cool because that wouldn't be something that like I would normally, I wouldn't have ever seen myself doing, so I feel like getting that opportunity was like, one, one in a million, it was really, really cool. (BC698

Despite many participants sharing their positive experiences with both the exhibition launch and the exhibition itself as a community space showcasing their photographs, participants also experienced challenges with this aspect of the MYSTORY study. One participant highlighted the challenges associated with co-designing the exhibition, as follows;

> I think the just the deciding and you know when we were trying to plan the exhibition deciding what sizes we wanted and the materials was pretty tough. I don't think it was bad or anything, I just think it's the work. I just think it's the my least favourite part of the whole thing, but at the same time I didn't find it bad or anything I just thought it was difficult (WB763)

Prior to the exhibition, several participants described concerns about the potential negative judgements that they could receive from the wider community, including judgements on both their photography skills and the focus of their photographs. Facing these concerns and overcoming challenges was described by the participants to result in a sense of pride and growth. One participant described their feelings prior to and after the exhibition launch and their sense of contentment with their achievements, as follows:

> I had a bit of mixed feelings leading up to the exhibition because I've never had something of, something like that that I've worked on and spent time on and that I was kind of proud of and be on display to people to see and then I was thinking, it was leading up to it and I was like "Oh My God, people are going to see the stuff that I've

worked on, they're going to judge it" but then it got to the day and I was like, wow, I'm proud of myself and it was, it was nice. (ZP863)

AMPLIFYING YOUTH VOICE; THE IMPORTANCE OF BEING ACTIVELY INVOLVED AND CONNECTION WITH OTHERS

Many participants described the MYSTORY study as representative of their voices, viewpoints, and experiences. Active engagement in the study components and the connection between the participants and others involved in the MYSTORY study were central to participants' perceptions of youth voice in the MYSTORY study. Many participants enjoyed having the opportunity to discuss mental health topics in ways which positioned adolescents' viewpoints as of central importance, as demonstrated in the following excerpts:

> I'd probably tell them [a friend] that, like it was really, it's a really good experience to do because of what you will learn from it and even what you bring to it as well. It's really exciting to do it, am you're really involved, like, with the group, getting to give your opinions and like show your work as well as seeing other people's work and their opinions like you're, I feel like you get a lot of knowledge from it, from all different sides (DN802)

> "It didn't feel like we were getting a rant about anything, or an explanation, it was like our opinions and our experiences were the most important part of it." (HB735).

Participants preconceptions of passive engagement in the MYSTORY study prior to the study commencing was juxtaposed with surprise about the extent to which they were actually involved. Many of the participants shared their experiences of being actively involved in various aspects of the MYSTORY study, from the photography to the exhibition. For instance, the broadly defined photography theme allowed participants to engage with the photography in ways which were agentic and meaningful, which is captured in the following excerpt where a participant describes what they would tell a friend about the MYSTORY study:

> I'd probably say how we basically got to do, kind of, what we wanted with it, we got a very broad, kind of like area to go and like, with mental health it's so broad, we could, we were able to do like positive impacts of it or negative impacts of it, we were able to go away ourselves and I think about "Oh what do we want to contribute to it?", something good or something, like the good sides of mental health or even the bad sides, how like we really get to show our own into it, like bring our own into it. (DN802)

Connection among the participants and feeling supported to engage in the wider MYSTORY study were important for active engagement in the study components. Participants highlighted the importance of feeling supported and comfortable in sharing thoughts, opinions, and experiences throughout the study, which was central to participants' perceptions that their experiences and perspectives were heard, as captured in the following excerpt:

> I thought that it was it was really good to have someone, like, actively reach out to us and like be able to listen to what we had to say and like our experiences on like a sort of equal, like, ground sort of like, rather than like, you know, like a mentor or like, just like someone who's actually listening to you and sitting beside you, is like kind of like your friend, if that makes sense.. (PF573)

Some participants made sense of their sharing of perspectives and experiences by reflecting on how the support and connection with others involved in the MYSTORY study was facilitative for sharing of perspectives. Many participants described sharing of thoughts, experiences and opinions as an inclusive and respectful process involving enjoyable and empathetic interactions, which further strengthened existing connections among the participants. Moreover, many participants reflected on the importance of the small, trusted group setting for providing a space to share one owns' mental health-related experiences and

perspectives, both through photographs and the discussions during the in-person focus groups, which is captured in the following excerpt:

> I thought it was good because we were in a small enough group, so it's easy enough to talk about what you needed to talk about and we also know each other really well, so it's easy to talk about it as well. I think if you're in a bigger kind of setting like school or anything, it's kind of hard to get your point across, so that's what I liked about it when we were doing it (LQ865)

When reflecting on the potential of the MYSTORY study to be applied in schools, there was a shared sense of concern that adolescents may not have as much involvement or interest in the MYSTORY study given the participants' existing perceptions of how schools can typically position similar activities, as captured in the following excerpt:

> I feel where school misses the mark with, am, talks surrounding mental health is that they are very "this is what young people are " "this is what is what young people think" and they're very statistic based. I feel with the MYSTORY project it was, there was a really strong input from the young people that were involved in it [..]. (ZP863)

Discussion

We explored participants' experiences of and perspectives on the MYSTORY study, using experiential, reflexive TA within a critical approach. The generated themes support the MYSTORY study as a unique, creative, and youth friendly study which provided participants with opportunities for reflection on and discussion of mental health, from personal mental health experiences to school mental health and suicide prevention, both within the workshops and focus groups, as well as in the wider community as part of the exhibition. Participation in the MYSTORY study was associated with enhanced ability to express thoughts, opinions, and

feelings, as well as feelings of pride, accomplishment, and connection, all of which were central to the positive experiences of engaging in the MYSTORY study among participants. Participants' experiences with the MYSTORY study were described in terms of overcoming challenge, accomplishment and growth, aligning with the goals of the advocacy/participatory paradigm to positively impact on the individuals who directly engage with research (Creswell & Poth, 2016).

Sharing of photographs lead to discussions and sharing of experiences in introspective and authentic ways, which aligns with findings that: (1) the draw and tell method facilitated deep exploration of adolescents' perspectives on mental health services (Goodwin et al., 2023), and (2) having something to draw or hold supported discussion of youth and school mental health topics among children (Hennessey et al., 2021). Our findings supporting the usefulness of photo elicitation in the in-person focus groups are particularly noteworthy, given that adolescence is a developmental stage where peer influence, discomfort, and shyness are particularly apparent (Norris et al., 2012) and in light of the notable challenges of engaging young people in mental health research due to the sensitivity of mental health topics (McCabe et al., 2023).

Feelings of pride and growth from overcoming challenges associated with exhibiting the photographs at a regional mental health awareness event was a central part of the participants' positive experiences with the MYSTORY study. The exhibition was a key source of motivation for both the young people involved in the MYSTORY study and the community partner alike, which further points to the importance of buy-in for engaging community partners in participatory research. The exhibition launch provided opportunities for participants to interface with community members and decision-makers and ultimately advocate for action, which aligns with the advocacy-focused goals of photovoice (O'Latz, 2017). Our findings demonstrating the positive impacts of the exhibition on the participants' experiences with the

MYSTORY study support the importance of including an exhibit-based activity in photovoice studies, which is a particularly important contribution of knowledge to photovoice research involving adolescents. Despite exhibitions in photovoice studies being of key importance to achieving outreach- and empowerment-related goals of photovoice (O'Latz, 2017), reviews of photovoice studies demonstrate that just over half of studies detailed including an exhibition (Hergenrather et al., 2009), and this proportion was even less for adolescent mental health photovoice studies (Stephens et al., 2023). Photovoice exhibitions are resource-intensive and involve acquiring an exhibition space, installing the exhibition, and publicising the exhibition (O'Latz, 2017). In the context of limited funding, our ability to hold a photovoice exhibition was made possible by JMM's existing links with community organisations, the co-ordinators of the regional mental health week and the national art gallery wherein the exhibition was installed.

Participants described the MYSTORY study as a space for amplifying youth voice and being actively involved in leading the photography and exhibition. Feeling supported and connected with the others engaging in the MYSTORY study was important for expressing viewpoints. Building respect, rapport and trust are key to productive and beneficial adult-adolescent partnerships, where sharing of adolescent experiences are central to the task (Lind, 2007). Moreover, young people engaging in participatory research need to feel assured that their perspectives will be treated respect and confidence (Water, 2018). A study which engaged young people as co-researchers in a youth injection prevention study highlighted how over time the youth co-researchers' participation increased with the facilitation of team- and skill-building activities, which were integral for helping the project to evolve into a safe environment (Funk et al., 2012). It takes considerable time to build trust between adult academics and participants (Stanton, 2014) and therefore, studies which aim to engage adolescents to understand their perspectives and experiences related to mental health should prioritise

engaging young people in youth-centred ways which supports building of rapport and trust among the researchers and participants.

Evidently, arts-based research methods can be particularly useful for alleviating challenges with discussing youth-related mental health topics, in ways which obstruct the passive positioning of adolescents in research. Given that the participants in the MYSTORY study shared mixed experiences with capturing and sharing photographs, it is important to consult with adolescents about their preferences for engagement in arts- and participatory-based studies. In addition to consulting with the YPAG about the photovoice method, we also asked the participants for their input during the MYSTORY study on an ongoing manner, which likely contributed to participants' perceptions that their viewpoints were central to the photovoice activity.

The finding that mental health topics in general could be challenging to discuss among participants is important, particularly when participants in the MYSTORY study likely had enhanced interest in mental health (given their advisory involvement in a mental health organisation), in comparison to the general population, who may be less experienced and interested in reflecting on and discussing mental health topics. Similarly, a study located in Ireland sampling adolescents with no experiences with mental health services reported on adolescents' challenges with discussing mental health topics (Goodwin et al., 2022). Despite these challenges, participants in the MYSTORY study nonetheless largely wanted to voice their views, similar to previous mental health research involving young people in England (Mawn et al., 2016) and findings among Australian students who wanted to discuss youth mental health in schools (Marinucci et al., 2022).

Data and methods reflections

Challenges associated with online research, including non-verbal communication and sustaining attention, are important to consider in the context of our findings, particularly when online engagement during the MYSTORY study was expressed as a key challenge by the participants. Online research has gained considerable traction since COVID-19, but online modes of engagement likely impact on epistemology and social phenomena central to qualitative methodology (Berger, 2015; Mwambari et al., 2021), and thus, online research must be given due consideration.

We were reflexive about the potential impact of the power imbalances between the adolescent participants and adult researchers, which could influence how participants engaged in the MYSTORY study. Participants shared diverse viewpoints and experiences during the focus groups, highlighting both positive and negative aspects of the MYSTORY study, which indicates that participants were comfortable in sharing their honest viewpoints. As a countermeasure to the potential pressures that participants could experience with respect to discussing aspects of the MYSTORY study in a favourable manner, we reminded participants of the importance of their honest perspectives related to the MYSTORY study, whether they were positive or negative, and we probed for negative aspects of the MYSTORY study during the online focus groups.

Although it was an enjoyable experiencing leading the focus of the photography for some of the participants, it is important to acknowledge that some of the participants experienced challenges with deciding on the focus of the photography theme and concerns about taking the 'right' type of photo which would represent themselves and the MYSTORY study well. Throughout the MYSTORY study we communicated with the participants during workshops, the check-in meeting and via email that there was no right or wrong approach to taking photographs and that photograph aesthetics were not of central importance to the MYSTORY study, based on recommended approaches to engaging people in photovoice

studies (O'Latz, 2017). Moreover, the photography theme was broadly defined in line with our theoretical framework and the central importance of participant agency in photovoice (O'Latz, 2017), and was inputted on by the YPAG. It is likely that participants' engagement with the photovoice workshops online may have precluded opportunities to express concerns regarding the photography theme on a one-to-one basis, particularly when some participants found it challenging to engage online with the MYSTORY study. As such, future research engaging adolescents in photovoice should be cognisant to the need for opportunities to discuss challenges related to engaging with photovoice on group- and one-to-one levels, on an on-going basis throughout the study.

The participatory approaches employed in the MYSTORY study may offer a model for engaging adolescents to understand their unique perspectives and experiences in both research and pedagogical contexts. For instance, the MYSTORY study could have various applications in school settings including: (1) engaging adolescents to understand their authentic experiences and perspectives related to school mental health and suicide prevention, which could be useful for both research and schooling practice purposes, (2) identifying foci of mental health which is important to a particular group of adolescents through their photography, which could guide appropriate PSSP intervention in school settings, (3) helping adolescents build skills, group connection and interest to engage as co-researchers in PSSP interventions, given the need for adolescents to development capacities needed to engage in research, including knowledge, confidence and problem-solving, and (4) providing a space for adolescents to get involved in school mental health and suicide prevention in creative ways and showcase their photography to the wider school community, which could serve to enhance connection among students and school personnel alike and improve school culture.

CONCLUSION

Findings support the critical- and advocacy/participatory informed MYSTORY study as a creative, youth-friendly, and empowering study which facilitated adolescents' reflection on, discussion about and dissemination of mental health perspectives, from personal mental health experiences to school mental health and suicide prevention. Our findings are relevant to researchers in wider school mental health and health fields and practitioners interested in supporting mental health and suicide prevention practices and interventions for their unique schooling contexts.

CHAPTER EIGHT

General Discussion and final conclusions

CHAPTER 8: GENERAL DISCUSSION AND FINAL CONCLUSIONS

MAIN FINDINGS OVERVIEW

Table 8.1 overviews chapter findings, implications of findings and research impact thus far of the doctoral programme of research.

In chapter 2 univariate, multilevel meta-analytic models calculated crude and adjusted population effects of PSSP interventions on SA and SI and meta-regression investigated the variability of the population SA effect based on intervention and contextual factors. Meta-analytic models demonstrated 13-15% and 28-34% lower odds of SI and SA, respectively, based on data from 33,155 adolescents attending 329 schools. NNTs for SA and SI estimate that one less adolescent would have a SA and experience SI for every 20–25 and 47–55 adolescents engaging in PSSP interventions, respectively, which translates to school settings as the reduction of at least one SA and one incidence of SI from hosting PSSP interventions in two classrooms. Meta-regression revealed that SA did not significantly vary based on intervention and contextual factors (all *p*s > .05) but larger effect sizes were observed for PSSP interventions of ≤1 week duration, involving multiple school personnel stakeholders, and with a 12-month follow-up as particularly effective for reducing SA.

In chapter 3 a narrative synthesis approach employed vote-counting to numerate study patterns and a textual approach to synthesis, which examined PSSP intervention effectiveness and highlighted important intervention and contextual factors with respect to PSSP interventions. 28 randomised and non-randomised studies containing nearly 47,000

participants revealed that 12/29 trials comparing intervention and independent control comparators reported statistically significant reductions in STBs postintervention, and 5/7 trials comparing preintervention and postintervention measures demonstrated significant reductions in STBs over time. Reporting and analysis of intervention and contextual factors were lacking across studies, but there was some evidence supporting the variability of PSSP effectiveness and intervention acceptability across type of school. Notably, adolescents had little involvement in designing, inputting on, delivering, and sharing their perspectives on PSSP interventions, despite adolescents' perspectives on PSSP interventions important for intervention effectiveness.

In chapter 4 a protocol is presented outlining a qualitative systematic review employing a meta-ethnographic approach to explore adolescents' perspectives on and experiences of engaging with PSSP interventions, as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers. In chapter 5 the meta-ethnographic review using reciprocal translations and synthesis generated key constructs which revealed the importance of the following for adolescents engaging as end-users, co-creators, and peer helpers with PSSP interventions: (1) trusting peers, school personnel and school settings involved in interventions, (2) experiential and agentic engagement, and (3) personal experience sharing. Furthermore, lines-of-argument synthesis highlighted the central importance of adolescents' trust in and connection with individuals and schools involved in PSSP interventions, for sharing of the self and actively engaging in interventions which are transformative and empowering for adolescents.

Chapter 6 and chapter 7 both present accounts of experiential, reflexive TA findings on school mental health and suicide prevention and adolescents' experiences of engaging with the MYSTORY study, respectively. Themes relating to adolescents' experiences with school mental health promotion and suicide prevention reveal the critical role of schools in impacting

adolescents' mental health, as well as the need to amplify youth voice and involvement in school mental health. The generated themes support the MYSTORY study as a unique, creative, and youth-friendly study which allowed for reflection on and discussion of school mental health and suicide prevention in focus groups and the sharing of perspectives on youth and school mental health and suicide prevention in the wider community as part of the photovoice exhibition. Participation was associated with enhanced ability to express thoughts, opinions, and feelings related to mental health, as well as experiencing feelings of pride, accomplishment, and connection, which were central to adolescents' positive experiences of engaging with the MYSTORY study. Ultimately perceptions of being actively involved and connecting with others were central to youth voice in the MYSTORY study.

This doctoral programme of research advances the field of PSSP by re-thinking PSSP interventions in terms of intervention effectiveness, implementation requirements and youth voice. The synthesis of qualitative and quantitative findings in the three systematic reviews in chapters 2, 3 and 5 collectively show the importance of considering contextual factors with respect to both PSSP intervention effectiveness and implementation requirements. Chapter 2 and chapter 5 serve to re-think PSSP intervention research in the wider field in terms of contextual factors related to adolescents, with the meta-ethnography in chapter 5 highlighting the importance of how adolescents perceive both: (1) aspects of PSSP interventions, and (2) the schooling contexts in which PSSP interventions are situated in, with respect to whether or not PSSP interventions have their intended impacts. This advancement of knowledge makes an important contribution to the field of PSSP and is applicable to the wider school mental health field.

Furthermore, the findings relating to the MYSTORY study reported in chapter 6 and chapter 7 make a novel contribution to understanding youth voice in the context of both participatory research and experiences of school mental health and suicide prevention.

Adolescents' lack of and desire for youth voice and meaningful involvement in school mental health interventions and student consultation spaces identified in chapter 6 makes an important contribution to a relatively scant area of the wider school mental health field. Given the findings in chapter 5 showing the need to consider aspects of the schooling context (i.e., school personnel, school culture) in PSSP research, these findings in chapter 6 have important implications for PSSP interventions and school-based interventions more broadly. Furthermore, chapter 7 highlights the importance of sharing experiences, relationship building, agency and empowerment to engaging adolescents in the MYSTORY study, which aligns with findings presented in chapter 5 revealing the importance of key concepts for PSSP intervention engagement, including connection with and trust in peers, facilitators, school personnel and schools, experiential and agentic engagement, and personal experience sharing. The findings relating to the MYSTORY study are indicative of the value of participatory-based research conducted within a critical approach for engaging adolescents in research exploring school mental health and suicide prevention perspectives among adolescents. Given the lack of: (1) participatory-based PSSP interventions and (2) considerations to researcher-participant relationship identified in chapter 5, the findings relating to the MYSTORY study are particularly relevant to the field of PSSP. Taking the studies in this programme of research together, the findings show the critical need to consider adolescents who are tasked with engaging with PSSP interventions as central to all aspects of PSSP effectiveness and implementation, in ways which draw on critical approaches to recognise power imbalances and adolescents' developmental stage as of central importance to adolescents' engagement with PSSP in research and practice.

Table 8.1 *Overview of Study Findings, Implications for Programme of Research and Research Impact*

Study & aims	Key findings	Implications for programme of research	Research impact
Chapter 2 (Meta-analysis of PSSP intervention effectiveness) To estimate the population effect for PSSP interventions targeting adolescent STBs as both primary intervention outcomes and with other health and well-being outcomes on SI and SA. To explore how intervention effects vary based on intervention and contextual moderators.	Compared to controls, PSSP interventions were associated with 13–15% and 28–34% lower odds of SI and SA, respectively, among 33,155 adolescents attending 329 schools. Moderator analyses were non-significant, but larger SA effect sizes support particular effectiveness for interventions of a duration of ≤1 week, involving multiple school personnel stakeholders and with a 12-month follow up. Numbers needed to treat estimate that one less adolescent would have a SA and experience SI for every 20–25 and 47–55 adolescents engaging in PSSP interventions, respectively, suggesting that implementing PSSP interventions in two classrooms could prevent at least one SA and one incidence of SI.	Supports the clinical effectiveness of PSSP interventions on adolescent on SA and SI, which guides the re-focus of the field of PSSP intervention research on implementation requirements. Highlights the nascency of youth involvement in PSSP interventions, which contributes to the overarching focus on the thesis on adolescents' experiences and voice in PSSP interventions and school mental health and suicide prevention, which is reflected in chapters 3-7.	Peer reviewed publication in JCPP, IF=8.265, Q1 journal in *Psychiatry and Mental Health, Pediatrics, Perinatology and Child Health, and Developmental* and *Educational Psychology*. Recognised in the Top 10 most downloaded JCPP papers of 2022. Commentary on this publication published in JCPP by Kamody and Bloch (2022). Oral presentation of findings at the 6th IAYMH conference 2022, Copenhagen, Denmark.
Chapter 3 (Narrative synthesis systematic review) To estimate the effectiveness of PSSP interventions targeting	A review of 28 studies (*n*=~47,000) demonstrated that PSSP interventions evaluated using randomised and non-randomised designs were effective in reducing STBs. Reporting and analysis of intervention and contextual factors were lacking across studies, but	Provides evidence for the nascency of youth voice in the field of PSSP. Extends chapter 2 insights by revealing adolescents lack of involvement in designing, inputting on, delivering, and sharing their perspectives on PSSP interventions.	Peer reviewed publication in Prevention Science, IF=3.9, Q1 journal in *Public Health, Environmental and Occupational Health.*

STBs as both primary intervention outcomes and in addition to other well-being outcomes, on STBs among adolescents, in studies which employ randomised and non-randomised study designs. To highlight important intervention and contextual factors in the PSSP literature. To investigate PSSP effectiveness with respect to intervention and contextual factors, in line with realist perspectives.	PSSP effectiveness and intervention acceptability varied across type of school. Notably, adolescents had little involvement in designing, inputting on, delivering and sharing their perspectives on PSSP interventions. Inverse associations between both study quality and study design with PSSP effectiveness.	Importance of intervention and contextual factors with respect to PSSP effectiveness and implementation requirements aligns with realist approaches discussed in chapter 1. Inverse associations between both study quality and study design with PSSP effectiveness support the exclusion of non-CRT trials from the meta-analysis in chapter 2. Adolescents' perspectives on both PSSP interventions and the school settings in which PSSP interventions were situated influenced how adolescents' engaged in PSSP interventions, which guides the exploration of adolescents' experiences with: (1) engaging with PSSP interventions as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers in chapter 5, and (2) school mental health promotion and suicide prevention in chapter 6.	Poster presentation HIST Research Cluster, UL, Implementation Science Conference: Applications and Complexities, 2022, Limerick, Ireland. Best Youth Mental Health Rapid presentation award (joint 1st place) at the NSRF Virtual Seminar on Suicide, Self-Harm and Mental Health 2020, Cork, Ireland. Practice and policy-related presentation at the YOULEAD 1st Annual Youth Mental Health Research Meeting, 2020, University of Galway, Galway, Ireland.
Chapter 5 (Meta-ethnography) To explore and integrate the perspectives and experiences of adolescents engaging with PSSP interventions,	Reciprocal translations and synthesis of findings reported in 16 studies engaging adolescents in PSSP interventions as end-users, co-creators, and peer helpers (n=~3000) generated the following three overarching constructs which are inter-linked by lines-of-argument synthesis:	Addresses the gaps in understanding adolescents' involvement and perspectives on engaging with PSSP interventions outlined in chapter 3. Highlights the important roles of connection and trust in peers, facilitators,	Protocol for review published in Systematic Reviews, IF=3.7, Q1 journal in *Medicine [miscellaneous]*. Accepted invitation to present at the Early Career Researcher Workshop at the NSRF World

as participants/end-users, intervention advisors, facilitators, and co-designers and co-researchers.	The importance of trust in engagement with PSSP interventions Different to engaging in school: the importance of how adolescents engage with PSSP interventions Sharing of real-life experiences important for connection and engagement Lines-of-argument synthesis identifies cyclical relationships between: (1) trust in peers, facilitators, school personnel and schools involved in PSSP interventions, (2) experiential and agentic engagement in PSSP interventions, and (3) personal story and experience sharing. Trust was central to sharing of the self and experiential and agentic engagement in PSSP, key components of positive engagement with PSSP interventions.	school personnel and schools in adolescent engagement in PSSP interventions. Highlights the importance of experiential and agentic engagement in PSSP interventions, which involves personal story and experience sharing. Highlights the lack of: (1) participatory-based studies and (2) considerations to researcher-participant relationship in the field of PSSP.	Mental Health Day, 2023, Cork, Ireland.
Chapter 6 (reflexive TA – MYSTORY) To explore adolescents' experiences with and beliefs about school mental health promotion and suicide prevention.	Reflexive TA of school mental health and suicide prevention experiences and perspectives of adolescents (*n*=14) generated three themes: (1) The need for young people's involvement and (typically unheard) voice in school mental health (2) School personnel as "frontline" for supporting young people with their mental health: a double-edged sword	Addresses a gap in understanding the context of school mental health and suicide prevention in Ireland, which is important in light of the findings in chapter 5 highlighting the need to consider aspects of the schooling context (i.e., school personnel, school culture) in PSSP research. Findings highlight the critical role of schools in impacting adolescents' mental health and the need to amplify youth voice and involvement in school mental health and suicide prevention, the latter of which	Peer-reviewed publication in Health Promotion International, IF=3.19, Q1 journal in *Health (social science)* and *Public Health, Environmental and Occupational Health.* This publication forms part of the themed Health Promotion International Participatory Approaches in Health Promotion collection.

	(3) Aspects of schooling experiences unhelpful to adolescents' mental health	is perceived to lack youth input and agency. These findings have important implications for PSSP and wider school-based mental health intervention research and practice. The engagement of adolescents in a participatory- and arts-based study informed by critical perspectives involving rapport and skill building and sharing of perspectives in creative, meaningful, and empowering ways aligns with key construct findings in chapter 5.	Virtual poster presentation at The International Association of Suicide Prevention 31st World Congress 2021, Queensland, Australia.
Chapter 7 (reflexive TA - MYSTORY) To explore the experiences of adolescents in Ireland who engaged in the MYSTORY study. To provide an in-depth description and reflection of the methods and procedures used in the MYSTORY study.	Reflexive TA of experiences and perspectives of adolescents (*n*=12) on the MYSTORY study generated three themes: (1) Understanding, expressing, and discussing mental health: from photograph to exhibition (2) Delving into the unknown, facing challenge and experiencing pride and growth (3) Amplifying youth voice; the importance of being actively involved and connection with others The generated themes support the MYSTORY study as a unique, creative, and youth friendly study which allowed for reflection on and discussion of youth and school mental health and suicide prevention in focus groups and in the wider community as part of the exhibition. Participation was associated with enhanced ability to express thoughts, opinions, and	Some of the concepts highlighted as impactful on adolescents' engagement with PSSP interventions in chapter 5 are similarly evident in the MYSTORY study; personal story sharing, relationship building, agency, empowerment, and awareness of adult-adolescent power imbalances. Contributes to both: (1) the lack of critically-informed participatory-based studies exploring adolescents' perspectives on youth and school mental health and suicide prevention, and (2) giving consideration to researcher-participant relationship and power, which was identified to lack in the context of PSSP interventions in chapter 5.	Éabhard O'Callaghan Award for Excellence in Youth Mental Health Research. Poster presentation with a youth collaborator at IAYMH 2022, Copenhagen, Denmark. I love Limerick and Limerick Post local media outlets reported on the MYSTORY study exhibition.

	feelings, as well as feelings of pride, accomplishment and connection, all of which were central to the positive experiences among participants in engaging with the MYSTORY study, which aligns with the goals of the advocacy/ participatory paradigm. Ultimately, perceptions of being actively involved and connecting with others in the MYSTORY study were central to youth voice in the MYSTORY study.	The MYSTORY model could be applied to school settings for both research and pedagogical purposes, to support the identification and implementation of PSSP interventions.	

Theoretical implications

There are several theoretical contributions throughout this programme of research pertaining to PSSP interventions and the wider school mental health field.

Firstly, this programme of research presents a re-conceptualised definition of PSSP interventions, which includes interventions located in post-primary school settings targeting STBs as both primary intervention outcomes and with other health and well-being outcomes. Drawing on this broadened definition of PSSP interventions in the meta-analysis in chapter 2 and in the systematic reviews in chapter 3 and chapter 5 addresses a gap in the inclusion of these type of interventions in existing PSSP intervention evidence synthesis studies (i.e., Miller et al., 2009; Robinson et al., 2018; Surgenor et al. 2016). This broadened definition of PSSP interventions also aligns with perspectives that adolescent suicide and STBs result from a complex interplay of socio-cultural, developmental, clinical, biological, psychological and family-environmental factors (Bridge et al., 2006; O'Connor & Nock, 2014), as outlined in chapter 1. The re-conceptualisation of the definition of PSSP interventions presented in this programme of research has also since been acknowledged by Kamody and Bloch (2022), as follows: *"*The review and meta-analyses by Walsh et al. (2022) provide a refreshing focus on alternative and innovative forms of intervention–namely the implementation of suicide prevention strategies in school."

Kamody and Bloch (2022) acknowledge the meta-analysis presented in chapter 2 as providing a landmark estimation of PSSP intervention effectiveness in the field. These meta-analyses are strengthened by the methodological considerations given to generating the composite population intervention effects, including the inclusion of multiple intervention

effects obtained from each relevant study and the limitation of inclusion criteria to CRT study design. As described in chapter 2, limiting the inclusion criteria to CRT designs in meta-analysis is best practice for evidence synthesis involving studies which employ CRT designs, based on evidence synthesis and cluster randomisation recommendations (Borenstein et al., 2011; Donner & Klar, 2002), yet this is not standard practice in the existing meta-analytic studies synthesising PSSP effectiveness. The synthesis of findings from randomised and non-randomised studies in chapter 3 shows an inverse relationship between study quality and study design with PSSP intervention effectiveness, which strengthens the argument for limiting the inclusion criteria to CRT study design in meta-analyses of PSSP intervention effectiveness.

The quantitative and qualitative reviews in chapters 2-5 provide a mixed-methods evidence synthesis insight into the complex ways in which aspects of context on micro-, school- and macro-levels (Domitrovich et al., 2008) can influence how PSSP interventions work. Notwithstanding the non-significant meta-regressions in chapter 2, effects for PSSP interventions vary in terms of intervention and follow-up length and involvement of school personnel stakeholders; in chapter 3 narrative synthesis findings demonstrates that effectiveness can vary based on school-type characteristics; and finally, the meta-ethnographic synthesis of qualitative findings in chapter 5 provides a narrative understanding as to how aspects related to both school contexts (including school personnel and school culture around mental health and suicide) and PSSP interventions can influence how adolescents engage in PSSP interventions, which in itself governs the potential for adolescents to benefit (or not) from PSSP interventions. The evidence synthesis approaches to understanding PSSP interventions effectiveness and implementation requirements employed in this programme of research were guided by realist perspectives, which understands interventions as providing resources which actors and recipients engage with, which further elicits mechanisms underlying contextually-dependent outcomes (Bonell et al., 2021). These insights support the realist-informed argument

that PSSP interventions cannot be considered as a separate entity from context (Bonell et al., 2021; Pawson & Tilley, 1997). These findings have timely value given the aforementioned evidence-practice gaps in PSSP research in chapter 1, and also have wide-ranging applicability to wider health-related fields, given the increasing interest in considering contextual factors with respect to intervention development and evaluation, occurring in tandem with the emergent interest in complex and upstream interventions and realist approaches to evaluation (Craig et al., 2018).

The narrative synthesis and meta-ethnographic analyses in chapter 3 and 5, respectively, demonstrate the important influence that school settings have on PSSP intervention effectiveness and implementation requirements. Chapter 5 provides a novel narration of the intersection between school context and adolescents' experiences with PSSP interventions, which shows the influence of the following on adolescent engagement with PSSP interventions: (1) adolescents' trust in peers, facilitators, school personnel and schools involved in PSSP interventions, and (2) how adolescents typically engage didactically in school. Furthermore, findings in chapter 6 provide a rich insight into the ways in which adolescents perceive aspects of school settings (including academics, teacher-student relationships and youth voice) to influence school mental health support provision and effectiveness, including mental health interventions and initiatives. Furthermore, a study exploring the perspectives of 49 young people aged 6-17 years demonstrated that the culture of a setting was a key aspect of effective social, emotional, and mental wellbeing provision in education settings, which both provided a foundation for and influenced wellbeing provision. Furthermore, young people endorsed educational-based wellbeing provision beyond initiatives such as lessons and supports, in the form of a social community comprising of trusted key adults and peers who can provide support, which ultimately positions wellbeing and social connection as a core component of educational life (Demkowicz et al., 2023). Taken together, it is clear that PSSP

and wider school mental health research must prioritise better understanding and harnessing of the school setting, in ways which centre on youth voice, in order to maximise both intervention effectiveness and implementation.

A sense of invisibility of suicide prevention and related topics in schools was identified in the literature retained for the meta-ethnographic review in chapter 5 and in the reflexive TA account of experiences with and perspectives on school mental health and suicide prevention in chapter 6. The invisibility of self-harm and lack of prioritisation of supports for self-harm in school settings was similarly identified in a meta-ethnographic review (Evans & Hurrell, 2016). The meta-ethnographic findings in chapter 5 extend Evans and Hurrell's findings to show that the sense of concealment of suicide can hamper adolescents' engagement with PSSP interventions, and the importance of this finding is underscored by the need to consider the impact of school-related contextual factors on STBs among adolescents (Poland & Ferguson, 2021). Ultimately, STBs and school contexts are interlinked and can influence school-based strategies targeting adolescent suicide, including PSSP interventions, in ways which can undermine the potential to target STBs.

The findings in chapter 2, chapter 3 and chapter 5 show that adolescents mostly play passive roles in all aspects of PSSP interventions, including design, delivery and evaluation. Furthermore, findings in chapter 6 further demonstrate a lack of adolescents' involvement and voice in key pillars of school mental health, including school mental health initiatives, school-based interventions and student consultation spaces. Furthermore, participants in the MYSTORY study expressed concern that increasing youth involvement may not be effective given adolescents' lack of agency in the school environment. These findings align with the passive positioning of adolescents in accordance with *adultism,* which has an underlying assumption that adults are more knowledgeable about issues relevant to adolescents (Teixeira

et al., 2021). The need for adolescents to be central in PSSP interventions and wider school mental health is a unifying argument comprised throughout the programme of research.

Adolescents' appreciation for opportunities to share perspectives and experiences in empowering, creative, and engaging ways was evident in the meta-ethnographic findings in chapter 5 and the findings relating to adolescents' experiences of engaging with the MYSTORY study in chapter 7. These findings align with the premise of the advocacy/participatory paradigm (Creswell & Poth, 2016) and are similar to studies engaging young people in wider health-related studies (Brady et al., 2023; Kontak et al., 2022). Notably, Brady et al. (2023) explored the learning from a co-produced evaluation of a young persons' research advisory group for vision research, which demonstrated that young people valued the social and creative aspects of engagement, perceptions of making a difference to research and having a right to be involved. Taken together, it is clear that research approaches which engage adolescents meaningfully, in ways which align with their interests and developmental stage, are central for adolescent engagement in PSSP interventions, as well as health interventions more broadly.

Trust and connection were identified as central concepts in chapter 5, with trust and connection integral for adolescent engagement with PSSP interventions, and in chapter 7, with the small, trusted group setting facilitative for engagement in the MYSTORY study. Taken together, these findings demonstrate how trust is particularly important in research which engages adolescents in mental health-related research. A review exploring involvement in research similarly identified trust as a key concept integral for young people to engage with adult researchers and further engage in research (Thomas et al., 2023). The aims of the MYSTORY study to explore adolescent experiences and perspectives using reflexive methods which take into account the influence of concepts such as participant-researcher rapport and trust aligns with the critical suicidology informed calls for research conducted within

conceptual paradigms incorporating interpretative and critical frameworks of understanding knowledge (White, 2017).

Practical Implications

This programme of research provides several important practical implications to the fields of PSSP, school mental health and youth involvement. Firstly, the peer-reviewed publication of two systematic reviews and one systematic review protocol presented in chapter 2, 3 and 4, respectively, contributes important insights, given that evidence synthesis methods integrate research in ways which are amenable to research translation, policy, and action (Burns et al., 2011; Lorenc et al., 2012; Mittman, 2004). The identification and integration of the extant literature in this programme of research can be drawn on to inform solutions to address evidence-practice gaps in PSSP research. Furthermore, the approaches used in this programme of research to delineate on important contextual factors with respect to PSSP interventions could be applied to generate evidence needed to address evidence-practice gaps in broader fields of suicide prevention (Larkin et al., 2022; Reifels et al., 2022) and school-based health (Jourdan et al., 2021), given that understanding how and why interventions are effective or not can inform the transferability of effective interventions across contexts.

The re-conceptualised definition of PSSP interventions presented in this programme of research is bolstered by its' alignment with global calls relating to both PSSP (WHO, 2021b) and adolescent health promotion in schools more broadly (i.e., the WHO Health Promoting Schools framework) (Langford et al., 2015), as well as national policies in Ireland and in the US relating to PSSP (NEPS, 2016; The White House, 2023). PSSP intervention alignment with policy is particularly paramount given that schools are often overburdened by their potential to host diverse adolescent health interventions which serve large groups of adolescents at one given time. This unique potential of schools can result in multiple health-focused interventions

running in parallel to one another (Espelage et al., 2022), which is simply not sustainable in resource-constrained and complex schooling environments (Ayer et al., 2022; Joyce & Cartwright, 2020). Taking alignment with policy, evidence, and practice into account, the definition of PSSP interventions presented in this programme of research meets international recommendations related to PSSP practice.

The NNTs forecasting the impacts of PSSP interventions in school settings presented in chapter 2 are a key practical implication emerging from this programme of research. In line with the "small effect big impact" phenomenon (Carey et al., 2023; Greenberg & Abenavoli, 2017), PSSP intervention scale up could lead to population-level SA and SI reductions over time. which could translate to substantial public health benefits in wider society. The NNTs support PSSP interventions as an urgent and a worthwhile investment of public funds for targeting adolescent STBs, yet the current lack of resources within wider youth mental health systems hinders the realisation of the potential of PSSP in practice. Greater allocation of taxpayers' funds for PSSP interventions to have public health-level impacts is needed (Kamody & Bloch, 2022).

Based on the findings in chapters 5-7, it is clear that various aspects of the school context including educational-related experiences (i.e., academics), interpersonal-related experiences (i.e., peer and student-teacher relationships) and school culture-related experiences (i.e., a sense of avoidance in discussing suicide in schools) can impact adolescents' engagement with and benefit from PSSP and broader mental health interventions. As such, schools must be adequately prepared to host interventions beyond typical considerations to funding and resources; school contexts need to be facilitative in terms of culture and ethos in engaging adolescents in PSSP interventions. Moreover, adolescents must trust and have positive rapport with both: (1) school personnel and adults tasked with delivering PSSP interventions, and (2)

schools' capabilities to host interventions, in order for the potential of PSSP interventions to be realised.

Furthermore, findings presented in chapter 6 showing the potential of schools to both help or hinder adolescents' mental health is increasingly of interest to: (1) decisionmakers in Ireland, UK and the US (DES, 2019; Department of Health and Department of Education, 2017; The White House, 2023) and (2) school mental health researchers, in light of the compelling evidence from the MYRIAD trial (*n*=26,885) which demonstrates that school-level variables, such as school type and climate, explained statistically small but significant variability in adolescent mental health, which could translate to much larger impacts in practice over time (Ford et al., 2021). Furthermore, given that poor adolescent mental health is related to lower educational attainment (Jackson, 2009) and school drop-out (Hjorth et al., 2016), strengthening the benefits of school contexts on adolescent mental health should be a key priority for educators and school management who are tasked with ensuring that adolescents thrive in terms of their health, development and educational attainment.

Limitations

Despite the significant contributions of this programme of research, there are some important limitations of this work to consider beyond the limitations and methodological considerations discussed within the individual chapters.

A limitation of the evidence-synthesis approaches used is the challenges of isolating and examining important modifiers, such as stage of adolescence and gender, which were largely reported in a non-disaggregated manner in the retained studies. Stage of adolescence was not operationalised in a disaggregated manner in the systematic reviews (chapters 2-5), despite the clear developmental differences across stages of adolescence; early adolescence (10–14 years) is marked by rapid pubertal changes, poor self-regulation and risk-taking, and late adolescence (15–19 years) brings puberal maturation, enhanced development of executive

and self-regulatory skills and increased autonomy (Patton et al., 2016). Most of the retained studies in the systematic reviews reporting age did not disaggregate their reporting in terms of stage of adolescence and some of the retained studies did not report age or grade in school. Given the importance of: (1) considering contextual factors with respect to PSSP interventions, as supported by the findings in chapter 2, 3 and 5, it is important that evaluation in PSSP interventions considers how young people at varying stages of adolescence may differentially engage with or benefit from PSSP interventions.

Furthermore, reporting of important gender-related contextual and demographic factors, including gender and type of school, was inconsistent and lacking in the retained studies for the systematic reviews. In terms of gender, this is problematic given the disparities in suicide and STBs across gender; there is a paradox of higher rates of STBs in females, while suicide rates are higher in males (Cybulski et al., 2021; Schrijvers et al., 2012; Wasserman et al., 2021). Furthermore, the etiology of adolescent suicide differs across gender; with coroner inquests showing antecedents of suicide such as witnessing domestic violence, bullying, self-harm, bereavement (including by suicide) and academic pressures were more common in females, whereas drug misuse, workplace problems were less common in females (Rodway et al., 2020). Moreover, the intersection between gender, school contexts and adolescent mental health is indicated in secondary analysis of PISA data representing adolescents across 33 countries, which demonstrates higher academic-related anxiety in females in comparison to males contributing to life satisfaction (Marquez, 2023). Clearly, gender is an important, albeit complex, concept which warrants particular attention in the area of PSSP, insofar that gender needs to be better operationalised, synthesised and interpreted going forward.

Furthermore, a limitation to this programme of research is the lack of representation of adolescents with mental health illnesses across the studies. Mental health illness was not a disaggregated variable in the evidence synthesis studies in chapter 2, chapter 3 and chapter 5,

and was not measured in the MYSTORY study in chapter 6 and chapter 7. Adolescents who experience mental health difficulties and illnesses can impart unique and valuable insights onto researchers in roles including peer researchers. Lived experience knowledge can contribute to improved funding success, recruitment rates and research outcomes (Simmons, 2021).

The identification of adolescent involvement in the MYSTORY study in accordance with Roger Hart's Ladder of Young People's Participation as *Youth consulted and informed* (Funk et al., 2012) is a limitation to the programme of research. Although the extent to which we involved adolescents in the MYSTORY study reflects adolescents' involvement in photovoice studies in the wider youth mental health field (Stephens et al., 2023), meaningful youth involvement in adolescent mental health research should include opportunities for adolescents to contribute to decision-making throughout the research process, in roles such as peer researchers and youth advisors (Simmons, 2021). Given the scope of the doctoral research, the timeframe to conduct the research, and the available resources and funds to support the research, adolescents were involved in the MYSTORY study to the extent which was most pragmatic. For instance, the members of the YPAG advising on aspects of the MYSTORY study were in full-time employment/education and had limited capacity to commit to advising on all aspects of the MYSTORY study. However, it is worth acknowledging that beyond the stages of the MYSTORY study presented in chapter 6 and chapter 7 €1000 euro funding was secured from the UL PPI Ignite, 2021 Network Bursary Scheme for the co-design and co-launch of a dissemination activity, a video titled; *What young people want from school mental health and suicide prevention' the MYSTORY study video,* which involved shared decision-making related to the video concept, mode of delivery of key messages, content of the key messages, the creation of the video and the co-launch of the video. The video launch took place in UL where adolescents, EW, JMM and the MYSTORY gatekeeper made speeches at the event and the video was premiered to attendees. This video was then shared with all post-

primary schools in Ireland during World Mental Health Month 2022. This dissemination activity meets the criteria of Roger Hart's Ladder of Young People's Participation (Funk et al., 2012) stage *Adult initiated and shared decision making with youth,* which is categorised by young people sharing decision making and running of a project (Funk et al., 2012).

On a practical level, it was not pragmatic to implement a PSSP intervention as part of this programme of research. COVID-19 significantly constrained in-person research during the time period of study (Rahman et al., 2021; Roberts et al., 2021), particularly in schools which experienced nationwide closures. Moreover, PSSP interventions are far less extensively employed in Ireland in comparison to jurisdictions in the US, where federally supported initiatives position suicide among young people as an urgent public health priority which requires mandated prevention (Miller et al., 2009). In Ireland much of the support for young people's mental health in terms of awareness and education is undertaken by community and government organisations instead in schools (McMahon et al., 2019). Furthermore, although evidence shows that involving adolescents in projects which focus on suicide and self-harm does not lead to suicide and STBs among adolescents (Robinson et al., 2017) and concealment of suicide only serves to stigmatise adolescents who are experiencing STBs (Robinson et al., 2016), NEPS in Ireland recognises PSSP interventions which focus directly on raising student awareness of suicide as controversial, given the perceived risks of increasing STBs among adolescents through the normalisation of suicide as a legitimate response to stress. NEPS specifies a preferred approach comprising of the promotion of school policies and programmes that promote mental health and wellbeing and early targeted interventions for at-risk adolescents (NEPS, 2016). For PSSP research to progress in Ireland, outdated views relating to suicide among adolescents in National guidance must be replaced with up-to-date perspectives on suicide.

FUTURE RESEARCH DIRECTIONS

Firstly, all future research directions presented in this programme of research can only be made possible by governments' prioritisation of funding to support: (1) PSSP interventions in schools, and (2) adolescents' meaningful involvement in PSSP interventions. Schools across diverse jurisdictions are often constrained by funds, staffing and resources (Ayer et al., 2022) and cannot absorb a lack of legislated funding for this work. Furthermore, recommendations for PSSP interventions based on our findings are supported by emergent critical suicidology scholarship, which considers the occurrence of suicide situated in context, rather than considering suicide as an individualised issue, and advocates for contextually-sensitive, responsive and people-centred preventive strategies (Standley & Foster-Fishman, 2021; White, 2017).

If evidence-based PSSP interventions are to be useful to policymakers and practitioners, consideration needs to be given to PSSP interventions as engrained in unique contexts which influence the effectiveness of the intervention, both in research and practice (Moore & Evans, 2017). Future randomised control trials evaluating effectiveness should incorporate realist evaluation, given the findings in this programme of research supporting the inextricable links between PSSP interventions and related contextual factors. Complex interventions have multiple interacting elements embedded in contexts with unique characteristics, and therefore must be evaluated in terms of their potential to be transported to other contexts (Bonell et al., 2021). Future PSSP intervention research should investigate effectiveness in terms of: (1) whether positioning of adolescents in school contexts influences adolescents' engagement with interventions, and (2) adolescents' perspectives on school-based mental health and suicide prevention experiences and interventions. The Consolidated Framework for Implementation Research shows effectiveness in enhancing intervention implementation, by accounting for and being informed by various aspects of context (Damschroder et al., 2009) and therefore, could

be considered to aid the investigation of aspects of context with respect to PSSP implementation.

Reifels et al. (2022) recommends consideration to randomised implementation trials for suicide prevention interventions when the following three conditions are evident: (1) there is an effective intervention, (2) a known evidence-practice gap, and (3) equipoise regarding the effects of an implementation strategy. PSSP intervention research should look to longitudinal hybrid effectiveness-implementation trial designs for evaluating implementation, similar to rigorous approaches being used to investigate suicide prevention in paediatric primary care by Beidas et al. (2021). Given the inverse relationship between study quality and study design with study effectiveness identified in chapter 3, it is necessary that these trials employ clustered randomised trial designs. Arguably, (3) 'equipoise regarding the effects of an implementation strategy' is currently lacking in the field of PSSP, with the science of implementing school mental health interventions (Fazel & Hoagwood, 2021) and suicide prevention (Reifels et al., 2022) more generally scant and underused. As such, focusing on PSSP intervention implementation is a key step in addressing the evidence-practice gap in the field of PSSP (Vargas et al., 2023). The first known protocol detailing a scoping review of implementation strategies and outcomes in PSSP intervention research has been recently published, and will be crucial to enhancing the understanding of the current implementation strategies being investigated and employed in the field of PSSP (Vargas et al., 2023).

The present findings in this programme of research highlight the importance of adolescents' experiences and voices with respect to PSSP and school mental health, as well as the complexity of the school setting with respect to PSSP intervention effectiveness and implementation. Future PSSP research should focus on the settings in which interventions are intended to be implemented, as it is vital to understand the contexts in which change is planned to be introduced (Moore & Evans, 2017). Based on insights from both this programme of

research and the Live Life suicide prevention approach (WHO, 2021b) regional and local situation analyses conducted within a critically- and advocacy/participatory informed approach could identify both specific needs and key aspects of contexts which need to be taken into consideration to inform evidence-based PSSP planning and implementation. Based on findings in chapter 7, the MYSTORY study provided a safe and youth-friendly space where adolescents could depict unique mental health experiences and beliefs relevant to their own lives', which aligns with critical suicidology spearheading the need for suicide prevention to account for the specific social, political, and cultural contexts of people's lives (White, 2017). As such, methods used in the MYSTORY study could be drawn on for engaging adolescents in situational analysis to generate authentic and contextualised insights and recommendations, using a participatory action research approach which aims to meet the rights of young people to voice their views, while emphasising youth agency, empowerment and youth involvement (Shamrova & Cummings, 2017; Water, 2018).

Given the clear importance of how adolescents experience and engage with PSSP interventions and wider school mental health supports, as evidenced in chapter 5-7, future research needs to direct attention to exploring the impacts of engagement (Rose-Krasnor, 2009). *The Big Picture: An Integrative Youth Engagement Framework* has four components: (1) the activity itself, (2) initiating factors influencing the likelihood of starting an activity, (3) sustaining factors affecting whether or not participation continues and (4) involvement outcomes (Rose-Krasnor, 2009), which could be drawn on to inform a systematic and rigorous approach to enhancing understanding of engagement in PSSP interventions. Furthermore, to meaningfully engage adolescents in research, Thomas et al. (2023) recommends the following: (1) focus on creating and sustaining trust, (2) openness and flexibility of researchers, (3) sufficient time to build relationships and collaborate, and (4) involve adolescents in research design and evaluation. Moreover, a recent systematic review demonstrated that facilitators to

young people's engagement in mental health research include reflexivity of adult researchers with respect to the power differentials between adults and young people and efforts to build genuine and trusting relationships between youth and adult researchers (McCabe et al., 2023). Taken together, it is clear that critically-informed approaches are needed to progress participatory-based PSSP research.

In wider youth mental health, there are calls for young people's experiences and personal insights to shape the development, implementation and evaluation of mental health service provision (Simmons et al., 2021). The development and implementation of the three-year Youth Engagement and Participation Strategy for ORYGEN demonstrated that although youth participation and engagement within a youth mental health context is an evolving ambition, it is possible to successfully implement youth participation and engagement in service design and delivery, research and translation, and policy (Simmons et al., 2021). Adolescents' voices in interventions designed to serve them play a critical role in ensuring that the intervention content, structure and implementation are suitable for adolescents (Bastounis et al., 2017). Clearly, the involvement of adolescents in the development, implementation and evaluation of PSSP interventions will enhance intervention appropriateness, which will further increase the responsiveness of the intervention to the needs of adolescents.

Evidently, due consideration to the participatory/advocacy paradigm in research in the field of PSSP should be given, yet there is a clear gap in studies employing participatory designs in PSSP research. Enhanced focus on meaningfully involving adolescents is needed which should prioritise increasing meaningful and autonomous involvement in PSSP research and giving greater attention to adolescent perspectives and experiences at all stages of the research process. ORYGEN have co-produced best practice guidelines for involving young people with lived experiences safely and effectively in suicide research, in collaboration with two international expert panels, suicide researchers and young people with lived experience of

suicide (Webb et al., 2023). The adaption of these guidelines to PSSP contexts could enhance the safe and effective involvement of adolescents in PSSP research. However, given that the hard-to-change nature of school settings enhances complexities in participatory research involving young people (Ozer et al., 2013) extending guidelines to school settings will need particular consideration. Based on the evidence presented in this programme of research and discussion thus far, it is recommended that research methods are critically-informed and underpinned by the advocacy/participatory paradigm principles, and harnessed in ways which recognises the power imbalances between adolescents and adults (Facca et al., 2020); this is important for both theory building (Kegler et al., 2019) and practice.

Meaningful partnership with community organisations is the backbone of implementation science, and therefore, the need for investment to identify and maintain community-university partnerships is unending (Beidas et al., 2022). Community-university partnerships between schools, community organisations, and other youth-serving systems can be crucial for bridging gaps between translational research and service provision of mental health interventions (Mahajan, 2022; Weist et al., 2017). The community-university partnership formed and maintained for over two years as part of this programme of research extends beyond the MYSTORY study, with the community partner remaining involved with other the school-based mental health research and youth advisory roles in the SCYLAB.

FUTURE RECOMMENDATIONS FOR PRACTICE AND POLICY

Decision-making surrounding the implementation of suicide prevention strategies is rarely informed only by the evidence-base, with key drivers on the ground, such as policy and funding allocations, impacting intervention uptake in practice (Reifels et al., 2022); this is especially the case for prevention strategies in schools where the climate of accountability can restrict allocation of activities and interventions which are perceived as misaligned with the

core curriculum (Domitrovich et al., 2010). As such, PSSP interventions which complement educational goals and align with educational and wellbeing mandate will likely merit particular consideration by school personnel who are at the grassroots of busy school settings. Evidence-based interventions suitable to highly contextualised school settings which involve adolescents and harness accessible and available targeted supports for at-risk adolescents are recommended, in line with the findings presented in chapters 2, 3, 5 and 6 and calls for suicide prevention globally (WHO, 2014, 2018, 2021b, 2022) and nationally in Ireland (NOSP, 2014) and in the US (The White House, 2023).

Furthermore, PSSP interventions in practice must provide accessible and appropriate follow-up supports. Schools can hinder and potentially harm adolescent mental health when interventions identify adolescents' needs for inaccessible mental health supports. In line with key recommendations (Ayer et al., 2022), PSSP strategies need to incorporate access to specialised, high-quality care, both school-based and external to the school setting. Strong referral pathways involving a co-ordinated approach between school and clinical services can link adolescents identified as at-risk for suicide by PSSP interventions to appropriate supports (Breet et al., 2021). This recommendation aligns with research and national mental health policy recommendations for multi-agency approaches to suicide prevention and wider mental health services interlinked with schools, embedded in the wider community and involving clinical specialities, community services and voluntary organisations (Cannon et al., 2022; Keogh et al., 2022).

It is necessary that school contexts provide actionable spaces for adolescents to contribute to, discuss and advise on school mental health and suicide prevention with school personnel and school leaders; these spaces were identified in chapter 6 as lacking and sorely needed. Adolescents can feel vulnerable when sharing private thoughts and feelings in front of peers during classroom-based interventions (Foulkes & Stapley, 2022). As such, any space

which requires adolescents' to input on and share experiences and perspectives related to school mental health and suicide prevention in the school setting must be cognisant to the importance of connection and feeling supported and safe in engagement (as supported by the programme of research findings), all while taking the power imbalances that exist between adolescents and school personnel into account. Practical tools to facilitate adolescents in sharing their perspectives and experiences, which could circumvent the power imbalances between young people and adults includes voting polls, suggestion boxes and petitions (Kontak et al., 2022).

The YAM intervention is one example of an evidence-based intervention aligning with the practical implications and recommendations thus far, which has shown effectiveness in reducing STBs in a large-scale European trial (Wasserman et al., 2015) and has been linked to increased help-seeking behaviours in North American schooling contexts (Lindow et al., 2020). Furthermore, the YAM intervention shows promising indications of acceptability by students, parents, and school staff and suitability across these international settings (Lindow et al., 2019; Wasserman, Hoven, Wasserman, Carli, Sarchiapone, Al-Halabí, Apter, Balazs, Bobes, Cosman, Farkas, Feldman, Fischer, Graber, Haring, Herta, Iosue, Kahn, Keeley, Klug, McCarthy, Tubiana-Potiez, Varnik, Varnik, Ziberna, et al., 2012; Wasserman et al., 2018). Importantly, the YAM intervention actively engages adolescents in a youth-centred and culturally sensitive way by providing opportunities for adolescents to shape the intervention by sharing matters and experiences most pertinent to them (Wasserman et al., 2018); this aspect of the intervention is critical given the clear importance for adolescents to be forefront to PSSP and school mental health initiatives more generally concerning them, as demonstrated in chapters 5-7. Currently, the Multimodal Approach to Preventing Suicide in Schools project is being investigated. The suitability of this project to adolescents is promising, given that this intervention has allocated substantial resourcing to involving adolescents in the adaption of

interventions employed in this project and in the consultation regarding the study design. Furthermore, the multi-target focus of the project in terms of targeting youth and key contextual outcomes (such as student-school personnel relationships), while investigating effectiveness and implementation requirements further bolsters the potential of this intervention (Bailey, 2021, September 10).

In terms of policy, there is a need for action-based policy (rather than committal) and enhanced school, district- and regional-level policy alignment with PSSP practice. One potential point of reference is Ireland, where progress has been made in strengthening the link between policy and mental health practice, as evidenced by the publication of the first *National Population Mental Health and Mental Health Services Research and Evaluation Strategy,* which aims to support the implementation of *Sharing the Vision: A Mental Health Policy for Everyone (Department of Health, 2020)* and align research with policy priorities, including service provision and access to early intervention (Department of Health, 2023). Applying this strategy model to PSSP could ensure that existing PSSP policy recommendations are translated to actionable outcomes.

CONCLUDING REMARKS

Suicide among adolescents stands as one of the most concerning public health issues in modern society. This programme of research provides evidence for the effectiveness of PSSP interventions which target STBs as both primary intervention outcomes and with other health and well-being outcomes. Moreover, this research highlights the importance of consideration to contextual factors with respect to PSSP effectiveness and implementation requirements, particularly those related to adolescents themselves and school contexts. Clearly, it is important that adolescents who are at the centre of PSSP have opportunities to engage with interventions in youth-centred and engaging ways. The overarching contribution of this programme of

research is the re-thinking of the field of PSSP from a standpoint which focuses on effectiveness, implementation requirements, and youth voice. The contributions of this programme of research provides important insights which are needed to address the evidence-practice gap in the field of PSSP. Finally, insights from this programme of research are widely applicable to school mental health and adolescent health research and practice.

CHAPTER NINE

CHAPTER 9: VIVA DEFENCE

This chapter describes the PhD candidates' reflections on the examiners' feedback on the thesis after the candidate's viva voce, which took place on the 3rd of October 2023 in Plassey House, University of Limerick. The candidate was examined by internal examiner Professor Catherine Woods, Physical Education and Sports Sciences Department, UL, and external examiner Dr Magenta Simmons, Orygen and University of Melbourne.

Throughout the thesis harnessing the potential of schools with respect to PSSP and school mental health is discussed. However, school settings also have noteworthy limitations which can impact on how PSSP interventions are implemented and sustained. In general schools are complex and busy environments which are often constrained by a lack of resources and time (Ayer et al., 2022), which can result in slow and challenging changes in schools necessary for PSSP intervention sustainment. Systematic reviews of school-based interventions have identified several limitations of schools. A systematic review of school-based public health interventions identified that none of the 18 interventions identified were sustained in the school setting in their entirety. Adaptation of interventions with respect to existing routines and changing contexts were part of the sustainability process. A key limitation in school settings noted was the norm of schools' prioritisation of educational outcomes in the context of time and resource constraints; however, wider policy context was noted to circumvent this challenge

and impact intervention sustainability by influencing health promotion in school-level policies (Herlitz et al., 2020). Furthermore, a review of the sustainment of school-based health behaviour interventions identified challenges of the school setting including a lack of availability of resources such as facilities and equipment, leadership support and culture of teamwork and support (Shoesmith et al., 2021). Finally, a review of school-based mental health interventions identified that school staff perspectives pertaining to the availability of resources and capacity to support interventions were among the most important factors for the sustainability of interventions (Moore et al., 2022). Although this thesis focused on youth perspectives with respect to PSSP interventions, chapter 3 identified that school personnel, including teachers and school counsellors, most commonly delivered PSSP interventions, which is indicative of the important role that school personnel have with respect to PSSP evaluation and implementation. As such, PSSP researchers must give due consideration to the limitations of school settings from the perspectives of school personnel who are commonly tasked with sustaining PSSP interventions, when designing and implementing PSSP interventions.

A limitation of the thesis is the disproportionate focus on the social aspects of the school setting with respect to PSSP in comparison to aspects of the school setting such as policy and the physical environment. Chapter 3 revealed that there is little focus on policy with respect to PSSP intervention studies, with no reference to school policies (i.e., educational and organisational) in any of the included studies. Policies at national- and school-levels are key drivers which impact the uptake of suicide prevention interventions (Reifels et al., 2022), which is arguably more true for PSSP interventions given that school settings are busy and often resource-constrained contexts which nonetheless are looked upon to host a range of supports and interventions to promote health among adolescents. As such, future PSSP intervention

research should both acknowledge and harness policy in research designs, to ensure that PSSP interventions are useful, suitable and sustainable in school settings.

Moreover, when spaces for adolescents who are experiencing STBs are referred to in PSSP research it is typically in reference to clinical settings external to schools, which are linked to schools via referral pathways inbuilt in the intervention or sometimes pre-existing to the intervention. Despite the lack of focus on physical spaces with respect to PSSP interventions across the systematic review studies in chapters 2, 3 and 5, the importance of physical spaces in schools was referred to in chapter 6, with participants in the MYSTORY study acknowledging how student consultation spaces and the classroom environment can both help and hinder their mental health. Specifically, the findings in chapter 6 highlight how there is no space in the classroom for adolescents' experiences of distress and mental health difficulties, yet the thesis demonstrates that most PSSP interventions identified in the systematic reviews are delivered at the classroom-level. As such, there is a need for greater focus on how the physical spaces in schools can either facilitate or act as a barrier for both PSSP and adolescents' mental health support. Physical spaces in schools are dynamic and have the potential to enhance the supports that adolescents receive, for instance youth-friendly quiet spaces in schools could host both therapeutic and peer-delivered supports. Enhanced investigation of how physical spaces in schools can impact both on adolescents who are experiencing STBs and the delivery of PSSP interventions are useful gaps to address in the field, which also align with the international calls for whole-of-school approaches to school mental health (Simões et al., 2021).

A limitation of the thesis is the lack of information on behavioural change theory and techniques with respect to PSSP interventions. Throughout the systematic review chapters (chapters 2,3 and 5) PSSP interventions are identified which largely incorporate varying behavioural change techniques and processes to reduce STBs, including presentation of

psychoeducation material, enhancing both socio-emotional skills and cognitive behavioural processes and peer- and school personnel modelling of help-seeking. However, there is a limited focus on and acknowledgement of behavioural change theory and processes with respect to STBs within the identified studies, as well as limited conclusions drawn on *how* PSSP interventions modify STBs in the thesis. Behavioural change theories are not only important for identifying the factors which influence behavioural change, they can also identify the behavioural change techniques in interventions which is important for both intervention design and evaluation (Prestwich et al., 2015). As such, harnessing behavioural change theories and practices more explicitly and rigorously in the field of PSSP could contribute to achieving the global calls for large-scale reductions in STBs among adolescents. For example, the Behaviour Change Technique Taxonomy (v1) is a structured taxonomy of behavioural change techniques used in behavioural change interventions which are measurable and replicable (Michie et al., 2013). Furthermore, the Integrated Motivational-Volitional Model of Suicidal Behaviour is informed by the Theory of Planned Behavior, the Diathesis–Stress Hypothesis, and the Arrested Flight Model of Suicidal Behavior, and outlines the components of the pre-motivational, motivational (ideation and intent formation) and volitional (behavioural enaction) phases of suicidal behaviour. This model could be drawn on to make predictions regarding the trajectory of suicidal behaviour (O'Connor et al., 2016; O'Connor & Nock, 2014).

Majority of the identified PSSP interventions in chapters 2, 3 and 5 did not engage peers in the interventions. Identified studies which did engage peers mostly engaged peers as: (1) peer leaders who led the delivery of intervention activities, (2) peer helpers as part of a support network who guided at-risk adolescents towards helpful supports and school personnel, and (3) peer advisors/designers who advised on and co-designed aspects of PSSP interventions. Most of the identified PSSP interventions which engaged peers reported positive impacts for both peers and adolescents receiving the interventions, including enhanced knowledge on STBs and

help-seeking, development of skills to support themselves and peers with their mental health, increased sense of connection with peers and with their school communities, and personal development (i.e., leadership skills and confidence). However, a key limitation to the peer-engaged interventions is the lack of evidence regarding the effectiveness of these interventions on targeting STBs, with most of these studies not reporting on STBs as intervention outcomes. Similarly, a review of the mental health outcomes of school-based, peer-led interventions demonstrated benefits to both peers involved in interventions and adolescents receiving interventions, yet there is a dearth in evidence of intervention effectiveness on mental health outcomes. Furthermore, evidence pertaining to the effectiveness of approaches to engaging peers in interventions with respect to mental health outcomes is lacking (King & Fazel, 2021). Unsurprisingly, evidence regarding the facilitators and barriers to peer-engaged PSSP interventions is not well established, however facilitators and barriers have been identified for engaging peer researchers in health research and are likely similar to barriers and facilitators related to peer-engaged PSSP interventions. Facilitators include supportive school environments and the use of youth-friendly practical tools which ameliorated power imbalances through anonymity including polls and suggestion boxes. Key barriers included adolescent-adult power imbalances, which manifested sometimes as adolescents not being taken seriously (Kontak et al., 2022). Furthermore King and Fazel (2021) identified social awareness in adolescence as a key barrier for adolescents receiving peer-engaged interventions, insofar that adolescents may be hesitant to confide in peers for fear of judgement and humiliation, as well as due to the perception that the peer may not be able to provide support. Clearly, there is a need to address these gaps in peer-engaged PSSP interventions to better understand the potential of these interventions, as well as the barriers and facilitators to engaging peers in PSSP interventions.

In line with the arguments in this programme of research, research informed by power, critical approaches and advocacy and participatory paradigms is needed to explore both peers and adolescents' perspectives on peer-engaged PSSP interventions, to ensure that authentic and in-depth adolescent perspectives can be explored. Practically, this should involve participatory evaluation with peers on an on-going basis throughout PSSP interventions, to ensure that the perspectives of peers who drop out earlier in the intervention are captured. The participatory and mixed-methods evaluation conducted within a realist approach proposed by Halsall et al. (2021) for examining peer support services in young people aged 14-26 years could be drawn to inform research exploring peer-engaged PSSP interventions.

Finally, there is a lack of consideration to whole-of-school approaches to PSSP interventions evident in the thesis and in the wider PSSP field, with most of the interventions identified in the systematic reviews in chapter 2, 3 and 5 delivered at the uni-level. Calls for systems approaches to public health are pervasive (Craig et al., 2018; Salway & Green, 2017), and are reflected in global recommendations for systems approaches to suicide prevention, which incorporate a suite of interventions aimed at different elements of the system to reduce suicide and STBs (WHO, 2021b). Given that the school setting encompasses supportive adults and dynamic spaces which collectively have the potential to play a role in PSSP, it is particularly important that whole-of-school approaches should be given greater consideration in future PSSP research. This recommendations aligns with calls from a European Commission report for systemic, whole-school approach for the promotion of mental health and well-being and the prevention of bullying in schools across the EU, which focuses on the importance of interacting subsystems within and beyond school settings (Simões et al., 2021). A recent systematic review synthesising the evidence on the evaluation of whole-of-school mental health interventions recommends bespoke, flexible approaches to evaluation in order to capture the depth and breadth of intervention impact, with a particular need to incorporate qualitative

evaluation which can provide nuanced evidence of impact and implementation potential (Wignall et al., 2022). Hybrid-effectiveness implementation research designs (Curran et al., 2012) which are randomised at the school-level are recommended for assessing whole-of-school PSSP interventions, and should incorporate these recommendations by Wignall et al. (2022).

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APPENDICES

APPENDIX A

Supplementary Table 2.1

Amendments to Protocol for the Meta-analysis

Amendments to protocol	Rationale for amendments
Inclusion of only cluster randomized control trial studies.	Only studies which employed a CRT design were included in this meta-analysis. The employment of CRT designs is necessary to establish intervention effectiveness when interventions are nested in contexts, which is the case when interventions are located in schools. It is unadvisable to synthesise studies with CRT designs with studies employing other study designs, as CRT designs contain additional sources of heterogeneity due to randomization unit and cluster size. When these additional sources of heterogeneity would likely interact with the intervention, it is particularly important to meta-analyse studies with CRT designs on their own (Donner & Klar, 2002). In the case of studies evaluating school-based interventions, where clustering represents the randomisation of schools and classes, there would likely be an interaction between the effectiveness of the intervention and clustering.
Exclusion of studies without potential to calculate crude ORs.	Studies which did not report/make available crude ORs unadjusted for study characteristics or data for potential calculation were excluded, as adjustment based on statistical relationships, overadjustment of effects and the pooling of effects with varying adjustments can incur bias and

	distorted inferences (Breslow, 1982; Shinde et al, 2020; Viechtbauer & Cheung, 2010).
Use of Cohen's Kappa Coefficient instead of intraclass correlation co-efficient for absolute agreement.	Cohen's Kappa Coefficient is a standard measure of agreement (Cohen, 1960) and was used as the outcomes were nominal.
Did not undertake the Grading of Recommendation Assessment, Development and Evaluation (GRADE) criteria.	The GRADE methodology was not undertaken for the meta-analysis as study design was homogeneous, risk of bias was measured by the Cochrane Collaboration Risk of Bias tool and consistency of SI and SA effects were measured using I2.
Use of R statistical language to conduct analyses.	R statistical programming was used instead of IBM SPSS statistics 26.
Omission of publication bias funnel plots.	Publication bias was not assessed visually by funnel plot symmetry as conducting these tests is not appropriate when conducting multi-level meta-analyses (Viechtbauer, 2010).
Did not assess risk of bias effects across study effect sizes.	Risk of bias assessment was not incorporated as a moderator as exclusion of studies based on bias may be a source of bias in itself (see Jüni, 2001) and subsequently, all studies were retained for meta-analysis.
Presentation of log ORs instead of risk ratios.	Dichotomous outcomes were expressed as log ORs as log ORs are a suitable effect outcome measure for dichotomous events which are rare (see Rucker et al., 2009), such as suicide outcomes.

Stakeholder involvement operationalisation.	Only involvement of stakeholders in intervention delivery was examined as data was not amenable to examine stakeholder involvement in design and assessment of the intervention.

Supplementary Table 3.1

Amendments to Protocol for the Systematic Review

Amendments to protocol	Rationale for amendments
Calculation of Cohen's Kappa Coefficient as an alternative to the intraclass correlation co-efficient for absolute agreement.	Cohen's Kappa Coefficient is a standard procedure for measuring agreement for nominal outcomes (Cohen, 1960).
Did not include the Grading of Recommendation Assessment, Development and Evaluation (GRADE) criteria.	The Cochrane Risk of Bias assessments was a sufficient study quality tool. As majority of studies were rated as 'High/Critical'/'Some concerns/Moderate' risk of bias in our review, the GRADE was concluded to be unpragmatic, when the GRADE may not be as worthwhile when the overall quality of studies is low (MacLennan et al., 2011).
Summary of intervention factors.	The protocol outlined that contextual factors would be investigated in the research question, and provided examples of secondary research questions which involved intervention factors. Subsequently, the

	examination of intervention factors as well as contextual factors is communicated more clearly in the review's aims.
Inclusion of Cochrane risk of bias tools for non-randomized studies.	This type of risk of bias tool was included as it was not appropriate to use randomized risk of bias tools for non-randomized studies.
Inclusion of realist perspectives as part of the guiding conceptual framework.	This was identified after the submission of the protocol.

Supplementary Table 3.2

Summary of Intervention and Contextual Factors and Study Outcomes

Study	Intervention core elements & delivery	Characteristics	Suicide measures findings	Risk of bias
Aseltine et al. (2007)	**Core elements** Awareness & screening programme which teaches the signs of suicide & depression & *ACT*. SOS focuses on pertinent risk factors for suicidal behaviour, including mental illness & misuse of alcohol. **Delivery** Delivered over 2 days by trained interviewers.	**Macro-level:** *Region* North America **School-level:** Lower & middle class urban & suburban schools.	The intervention group were 40% less likely to report a SA compared with controls; OR=$e^{-.47}$=.63, p<.05. Differences in SI were non-significant; p> .05.	Overall bias assessment BD1a, BD1b, BD2, BD3, BD5=Low.
Bailey et al. (2017)	**Core elements** to educate in recognising & responding to the warning signs of suicide through applying the Tell, Ask, Listen, & KeepSafe steps. **Delivery** A SafeTALK trainer, & school staff & school counsellors who had taken part in ASIST over 3-hour workshops.	**Macro-level:** *Region* Australia **School-level:** Mainstream high schools **Individual-Level:** *Perceptions of and attitudes to the intervention* Most participants rated SafeTALK as; either somewhat/very enjoyable (86.1%), not upsetting at all (75.4%), very worthwhile (68.9%) & would recommend it to others (86.1%) & felt very prepared to help their friends after the training (65%) & that their friends were very well equipped to help them (49.2%). Finding the training upsetting was associated with having thoughts of suicide before the past 4 weeks (OR=.42, [.18, .99], p=.47) but not with suicidal thoughts within the past 4 weeks & current SI.	In comparison to baseline, individuals at T1 had .53 times the odds of reporting suicidal thoughts [.20 to 1.36], & at T2 had .30 times the odds [.10 to .91].	Overall bias assessment BD1, BD2, BD3, BD4, BD5, BD7=Low.

Eggert et al. (1995)	**Core elements** Targeted suicide & was based on social learning & control theory, emotion management, life & academic skill development, relationship building, risk & protective factors & support. Real-life problems experienced by the youth informed the intervention. The intervention was incorporated into a Personal Growth Class. Delivery Over 5/15 months. School personnel (e.g., teacher, counsellor, or school nurse), psychosocial nurse specialist or counsellor, school case managers, who were identified as "natural helpers" by students & peers. Participant's guardian of choice was advised of the child's needs.	**Macro-level:** *Region* North America **School-level:** *School Characteristics* Urban high schools. **Individual-level**: *Professional characteristics* One recruitment criteria for those delivering the intervention was former experience or expression of interest in working with youth at risk of school failure.	The observed patterns of change for suicide risk behaviours did not vary among the three groups (all *p*s>.05). Findings were similar for SI.	Overall bias assessment BD5=Some concerns. BD1, BD2, BD3=Low.
Fekkes et al. (2016)	**Core elements** A Dutch prevention programme aimed to reduce behavioural & health issues focused on enhancing social, emotional & moral skills. **Delivery** Trained teachers. The programme was presented over 2 school years & consisted of 25 lessons.	**Macro-level:** *Region:* Europe **School-level:** *School Characteristics* [a]All schools were public & non-denominational schools. **Individual-level:** *Perceptions of and attitudes to the intervention* Few teachers filled out the logs and completed the full intervention.	No significant differences between control & intervention conditions at follow-up for SA &SI (*p*s>.05).	Overall bias assessment BD1a, BD1b, BD3=High risk. BD2=Low. BD5=Some concerns.
Gould et al. (2005)	**Core elements** Screening programme. **Delivery** For participants reporting serious SI or risk of SA project child psychiatrist, psychologist or social workers interviewed such participants to assess the need for further evaluation. Project social workers arranged referrals with parents. 2-day screening conducted over 2 years.	**Macro-level:** *Region:* North America *Policies and financing* The President's New Freedom Commission, the Children's Mental Health Screening & Prevention Act & the recent enactment of the Garrett Lee Smith Memorial Act was described. **School-level:** *School Characteristics* Public suburban schools, coeducational schools & a parochial all boys' school. Schools where there was pre-existing trust with school administrators were recruited.	There were no significant differences between control & experimental conditions for SI at T1 (*p*=.49 & *p*=.86)	Overall bias assessment BD1a, BD1b ,BD2, BD3,BD5=Low.
Gravesteijn et al. (2011)	**Core elements** The programme design team consulted with teachers & conducted observations. **Delivery** Adolescents, their	**Macro-level:** *Region:* Europe. *Leadership and human capital* The programme was reviewed by the Dutch Institute of Youth. **School-level:** *School Characteristics*	The intervention had a significant effect on suicidality *B*=-0.17, SE=0.07, *t*=2.21, *p*<.05 at short term	Overall bias assessment BD5=Critical

	teachers & parents took part in meetings to identify conflict situations for adolescents & to design the intervention. Trained teachers delivered the intervention during class over 14 weekly classes lasting 1 hour.	Urban - Preparatory secondary vocational education, middle general secondary education, higher general secondary education lasts five years, and preparatory scientific education. **Individual-level:** *Professional characteristics* Teachers delivering the intervention had no training in suicidality.	but not at long term (p>.05). A mediation model demonstrated that intervention effects on suicidality were mediated by self-esteem. The remaining hypothesised protective factors did not significantly predict suicidality.	BD1, BD2, BD4, BD7=Low BD3=Moderate.
Hooven et al. (2010)	**Core elements** CARE targeted suicide risk by enhancing skills in managing emotion, coping with stress & support-seeking. C-CARE comprised of an interview, a counselling protocol & social connections. P&C-CARE was a combination of the above interventions. Controls had screening, feedback & home/school support resources. **Delivery** CARE & C-CARE interventions involved counsellors, parents & school personnel. Parents had 2 x 2-hour home visits & learned how to deliver skills training & support to their child.	**Macro-level:** *Region* North America. **School-level:** *School Characteristics* Pacific Northwest urban and suburban school districts.	The P&C-CARE condition demonstrated greater reductions in negative behaviour compared to the other conditions. PCARE was not significantly different from the MI comparison.	Overall bias assessment BD5=Some concerns. BD1, BD2, BD3=Low.
Kim et al. (2020)	**Core elements** The intervention informed by the PRECEDE-PROCEED model aimed to prevent adolescent suicidal behaviour & reducing risk factors. Health education sessions for parents and family workshops were conducted. A technical committee monitored and made decisions about the programme. **Delivery** Researchers developed & delivered the mental health education intervention (approx. 1 year) based on preintervention survey findings completed by the youth.	**Macro-level:** *Region* South America. *Policies and financing* KOICA funded the intervention through Yonsei University *Community–university partnerships* KOICA, the Ministry of Health of Peru & the regional government collaborated on the development of the intervention *Leadership and human capital* Technical committee assisted intervention development & monitoring. It was comprised of KOICA stakeholders, Yonsei University, the Pan American Health Organization, the Ministries of Health & Education of Peru. **School-level:** *School Characteristics* Public secondary schools.	There were significant differences across the intervention and control groups in SA, with control participants reporting more SA: OR=1.77 [1.18, 2.68], p =.006).	Overall bias assessmentBD5 =Some concerns. BD1, BD2, BD3=Low.
King et al. (2011)	**Core elements** Surviving the Teens® Suicide Prevention and Depression Awareness Program was administered to students during health classes. The program was comprised of four sessions & focused on increasing knowledge around suicide risk factors & promoting strategies to cope with	**Macro-level:** *Region* North America. *Policies and financing* The Surgeon General's Call to Action to Prevent Suicide stressed the urgency in effectively addressing this issue. *Leadership and human capital* Intervention was facilitated by the Division of Psychiatry at Cincinnati Children's Hospital Medical Centre. **School-**	Significantly less likely at T2 than baseline to be considering suicide, to have made a suicidal plan or attempted suicide: SI baseline=4.2% T2=1.5%, p=.035, SI in the previous 3 months Baseline=10.9%, T2 =7.9%, p=.105 SP baseline=9.9%,	Overall bias assessment BD1, BD5 =Moderate BD2, BD3, BD4, BD7=Low.

	stressors, through information and sharing of life experiences, & increasing student awareness of the importance of feeling connected to school. Students had access to crisis intervention sources & programme Website. **Delivery** Project co-ordinators **(four 50-minute sessions).**	**level:** *School Characteristics* Schools located in suburban areas.	T2 = 5.2% *p*=.003, SA=baseline 5.2% T2=1.7% *p*=.011.	
LaFromboise and Howard-Pitney (1995)	**Core elements C**ulturally tailored & curriculum-based intervention targeting goal setting, self-esteem, identification of emotions & stress, communication & problem-solving skills, ameliorating self-destructive behavior, knowledge of suicide & intervention training. Community input informed the intervention & ensured cultural appropriateness. A pilot study informed the intervention. Two Zuni community members acted as Cultural resource persons (a curriculum specialist & a mental health technician) assist the programme delivery. **Delivery** Non-Zuni teachers presented the intervention during language arts classes. The intervention was conducted approx. 3 times weekly over 30 weeks during the school year.	**Macro-level:** *Region* North America *Leadership and human capital*. Zuni leaders initiated the development of a suicide prevention program in their high school with the purpose of reducing the factors associated with suicidal behavior due to rising suicide rates & concern for loss of Zuni traditions. *Community-university partnerships* Henry J. Kaiser Family Foundation, the Zuni Public School District, the National Institutes of Health, & the University of Wisconsin supported this research. **School-level:** *School Characteristics* Zuni Tribal School. **Individual-level**: *Professional characteristics* Teachers were selected to deliver the curriculum in the intervention classes on the based on their expertise & willingness to deliver the intervention.	The intervention group was less suicidal (*M* = 54.34) after taking part in the curriculum than the no intervention group (*M*=58.86), *F*(61)=1.45, *p*< .07.	Overall bias assessmentBD1, BD3,BD5,BD7= Moderate.BD2, BD4=Low.
Manjula et al. (2018)	**Core elements:** Based on CBT principles targeting depression & stress & suicide strategies recommended by the CDC & comprised of an Awareness and Education Program. The 1st session targeted at stress, depression, identification of suicidality & helping behaviors. The second session involved improving coping, enhancing peer relations & social support & positive thinking. **Delivery:** Researchers conducted sessions over 6-8 weeks (2 hour session).	**Macro-level:** *Region* Asia. **School-level:** *School Characteristics* Public & private schools without counsellors-school (8th-10th grades) & Pre University Colleges (11th-12th grades).	There was no significant reduction in suicidal probability scores or SI across time for school-going adolescents (all *p*s>.05)	Overall bias assessment BD2=Critical. BD1=Serious. BD3, BD4, BD5, BD7=Low.
O'Leary-Barrett et al. (2013)	**Core elements** Personality-targeted, brief, coping skills interventions conducted based on CBT models & included psychoeducational & motivational	**Macro-level:** *Region* Europe**.**	There was significantly less SI reported in the intervention condition, in comparison to the control condition; Intervention	Overall bias assessmentBD1 a,BD3=Some concerns.

	enhancement therapy elements & scenarios shared by high-risk youth. **Delivery:** Trained school-based professionals (teachers, school counsellors & pastoral staff), facilitator & cofacilitator delivered the intervention, which consisted of 2 x 90-minute focus groups.		*M*=.31 *SD*=.31 Control *M*=.34 *SD*=.31, β=.09 SE=.04, *p*<.05.	BD1b,BD2, BD5= Low.
Orbach & Bar-Joseph, 1993	**Core elements:** The intervention consisted of student workshops which focused on sharing of experiences, coping & problem solving & encouraging a self-help & peer-help approach. The intervention was based on the notion that confrontation & exploration of experiences & difficulties related to suicidal behavior & an emphasis on coping strategies can protect against self-destructive feelings. The control condition comprised of social issues discussion school classes. **Delivery**: Trained school counsellors or psychologists. Workshops took place during designated social issues discussion over 7 weekly 2-hour workshops each with unique topics.	**Macro-level:** *Region* Asia. *Policies and financing* the intervention was approved by the Ministry of Education and Culture in Israel. **School-level:** *School characteristics* Mainstream high schools & a special education class. Student's responses to the intervention varied across schools. The special education class reported that the program was too exposing, whereas mainstream classes reported wanting to extend the intervention. **Individual-level:** *Perceptions of and attitudes to the intervention* Content analysis of open-ended questions revealed that most students rated the intervention as being positive & felt that the workshops brought about a positive change, with problem solving rated as the most frequent change experienced.	Group x time interactions indicate an overall effect of the intervention on suicidal tendencies; *F*(1,17)=7.08; *p*<.05.	Overall bias assessmentBD1 a,BD1b, BD2, BD3, BD5=Low.
Perry et al. (2014)	**Core elements:** HeadStrong is an educational program, based on the PDHPE curriculum. The HeadStrong content is explicitly linked to syllabus outcomes, which allows teachers to meet mental health and self-development syllabus objectives. **Delivery** HeadStrong classroom activities are delivered by trained teachers over a period of 5–8 weeks & take 10 hours of class time.	**Macro-level:** *region* Australia. **School-level** *School characteristics* Non-government, Catholic and Independent, single-sex or co-educational secondary schools **Individual level:** *Perceptions of and attitudes to the intervention* Several teachers encountered difficulties following research procedures, resulting in several schools failing to complete & return student questionnaires on time.	No differences were found within or between conditions on SI (no statistics reported).	Overall bias assessment BD3=High risk BD1a, BD1b, BD2, BD5=Low.
Perry et al. (2017)	**Core elements:** SPARX-R is an gamified and preventative intervention, based on CBT. LifeSTYLE is an adapted online program for adolescents, which was initially developed as an active control online program for adults with SI. It did not contain mental health related content. The study protocol is published. **Delivery:** Teachers supervised the	**Macro-level** *Region:* Australia. *Leadership and human capital* Systems administrators at the Black Dog Institute, who designed & implemented the online platform that delivered both the interventions and assessments to trial participants. **School-level** *School-characteristics* Selective & partially selective government secondary schools. Streaming status (i.e., selective, or comprehensive) was recorded & evaluated in analyses.	No significant differences were found between conditions in SI T1=7/205 in SPARX-R & 8/196 in LifeSTYLE (*p*=.80) T2=3/126 in SPARX-R & 8/198 in LifeSTYLE (*p*=.54), T3=1/39 in SPARX-R & 3/62 in LifeSTYLE (*p*>.99).	Overall bias assessment BD1a=Some concerns BD1b, BD2, BD3, BD5=Low.

	interventions. SPARX-R & LifeSTYLE were comprised of 7 modules (20-30 minutes). Modules were conducted over 5-7 weeks during class. The trial was designed for implementation in schools in accordance with the Australian academic calendar.	*Resources* Several technical problems occurred during implementation, which impacted some students' ability to complete their allocated modules during class time. This was due to the excessive load on the school information technology (IT) system associated with multiple students simultaneously accessing the online research platform & downloading the SPARX-R game files.		
Poppelaars et al. (2016)	**Core elements:** OVK is an adapted depression prevention program. OVK lessons were based on CBT. SPARX is a CBT-based treatment for clinical depression in the form of an interactive fantasy game intended for adolescents. **Delivery:** Professional psychologist supervised the OVK intervention. Eight OVK lessons were provided weekly at schools during or after class time (one hour long). SPARX The OVK involved homework and SPARX consisted of sole playing of the fantasy game. SPARX could be played at home (weekly, 20-40 minutes) using a CD-ROM. OVK & SPARX condition was a combination of both interventions.	**Macro-level:** *Region* Europe. **School-level** *School characteristics* Unsegregated schools, low secondary education, low to intermediate secondary education, intermediate secondary education & high secondary education **Individual-level:** *Perceptions of and attitudes to the intervention* Agreement with statements was compared across conditions using ANOVAs. Post-test ratings of satisfaction with OVK & SPARX demonstrated comparability (no significant differences $p>.05$). Statistically significant differences ($p<.05$) across intervention attractiveness for adolescents & perceived usefulness in daily life revealed that the OVK was a more attractive option for other adolescents & more useful in daily life compared to SPARX.	Kruskal-Wallis test demonstrated no significant differences between conditions in relation to SI.	Overall bias assessment BD1a, BD1b, BD2, BD3, BD5=Low.
Randell et al. (2001)	**Core elements & delivery** Research staff, trained practice nurses/social workers, school personnel & parents delivered C-CARE & was comprised of individual assessment/ counselling & social connections intervention. Trained teachers, counsellors, or nurses delivered CAST over a 12 (1 hour) session coping & skills training program over 6 weeks. Control was "usual care"; 30-minute assessment interview & social connection intervention delivered by school personnel & parents.	**Macro-level:** *Region* North America. *Policies and finances* **School-level:** *School Characteristics* Urban high schools.	Suicide risk behaviours were not significantly different across conditions, participants in all three groups demonstrated decreases in suicide risk behaviours postintervention: F Linear (1, 338) = 62.58 $p< .001$.	Overall bias assessment BD3= Some concerns. BD1a, BD1b, BD2, BD5=Low.

(J. Robinson et al., 2016)	**Core elements:** Reframe IT is a school-based *Internet-based programme* conducted by researchers from OYHRC. The 8 modules incorporated standard CBT approaches. The site comprised an adult 'host' character who delivered the therapy verbally, and a series of video diaries made by young people (actors), that told a different 'story' each week. There were also two activities to be completed per week. The site also included a message board, a series of factsheets covering a range of related topics, downloadable MP3s and helplines & services that participants could access if they wished. **Delivery:** 15–20 minutes weekly (8 weeks). Trained researchers delivered the intervention. There was a researcher-therapist who checked the responses. School staff were informed of high scores. Completed activities & the message board were checked & responded with messages.	**Macro-level** *Region* Australia. *Leadership and human capital* OYHRC are affiliated with the Melbourne Health, and the University of Melbourne. **Individual-level** *Perceptions of and attitudes to the intervention*. Preliminary analysis indicates no adverse effects of the intervention. Intervention safety & acceptability was assessed in a separate publication(Robinson et al., 2015). Majority of participants reported; enjoyment from intervention engagement, recommendation to a friend, and usefulness of the intervention.	There was a significant reduction in SI after the intervention: Baseline M=3.2 SD=1.6, T1 M=1.5 SD=1.3, df 20 t =6.2 p< .0005.	Overall bias assessment BD3, BD4, BD5, BD7= Moderate BD1, BD2=Low.
W. L. Robinson et al. (2016)	**Core elements:** The A-CWS is an evidence-based general stress reduction programme. Tailored cultural adaptions were applied. Student consultants identified cultural adaptations with research team and primary investigators. **Delivery:** A licensed psychologist, & graduate clinical psychology students delivered the intervention. The intervention was delivered weekly in 15 X 45 minutes sessions during classes. Control conditions comprised of one-to-one sessions to develop stress management strategies by social work staff.	**Macro-level:** *Region* North America. *Policies and financing* Each school were given a yearly $500 stipend for institutional costs. **School-level:** *School Characteristics* Public high schools predominantly African American students *Resources* on-site School-Based Health Centers.	SI in participants in the A-CWS intervention with elevated risk was significantly reduced to 9.1%, compared to 64.7% of participants in the control group, $\chi 2$ (1, N=28)=8.44, p < .01,representing a relative suicide risk reduction of 86%. No significant baseline differences among those without elevated risk.	Overall bias assessment BD5=High risk. BD1, BD2, BD3=Low.
Schilling et al. (2014)	**Core elements:** SOS (see Aseltine et al., 2007) through three age-appropriate vignettes and a group discussion about depression, suicide, bullying, self-injury, & getting help; **Delivery:** Trained school	**Macro-level:** *Region* North America**. School-level** *School Characteristics* High military impact middle schools.	Significant differences in SI and SP, but not in SA, across the conditions. SI p<.05, control=10.5%, intervention =3.7% n=381, SP	Overall bias assessment BD1a =High risk BD1b, BD2,

	personnel administered the programme & comprised of school psychologists and counsellors and health teachers. The intervention was delivered over the period of November 2009-March 2010.		*p*<.05, control=11.6% intervention =4.7% *n*=381.	BD3, BD5 =Low.
Schilling et al. (2016)	**Core elements:** SOS (see Aseltine et al., 2007) educates students that suicidal intent & behavior are usually symptoms of mental illness and are a part of the diagnostic criteria for major depressive disorder. Presenters of the programme completed a preparatory a 1-day training presented by Screening for Mental Health. Programme duration was 2 days (stated in Aseltine & DeMartino 2004) **Delivery:** Trained school counselling & social work staff.	**Macro-level:** *Region* North America. *Leadership and human capital* High schools implemented SOS as part of the Connecticut Youth Suicide Prevention Initiative funded under the Garrett Lee Smith Act **School-level** *School characteristics* Technical schools & comprehensive secondary school. Reported school characteristics varied (such as the percentages eligible for free/reduced price lunches and academic performance levels).	SA was higher in the control group (14.9 vs. 9.4 %). SI Intervention= 45/650 Control=(36/396), *p* > .05 SA<3 months Intervention=11/650 Control=(20/396), *p*< .05 SA lifetime T1 Intervention=54/650 Control= 59/396 *p*< .05 SP T1 Intervention=40/650 Control=29/396, *p*>.05.	Overall bias assessment BD1a=Some concerns BD1b, BD2, BD3, BD5=Low.
Shinde et al. (2020)	**Core elements:** The SEHER is a multicomponent, whole-school health promotion intervention, emphasizing the importance of positive school climate to promote adolescent health & wellbeing. The AEP was conducted in all arms. **Delivery:** Trained lay school counsellors or a teacher delivered the SEHER. Students & teachers decided activities & display of monthly wall magazines. Supervisors supported & supervised schools through 3 planned visits per month SM.	**Macro-level:** *Region* Asia. *Leadership and human capital* Trial Steering Committee & The Department of Education were involved **School-level:** *School characteristics* Government-run secondary & higher secondary schools, co-education (68%), boys (50%) & girls only (69%) schools. School sizes >600, 301-600 & 101-300. **Individual level:** *Perceptions of and attitudes to the intervention* TSM arm had greater student complaints. TSMs indicated feeling overloaded due to other job tasks. At pilot testing stage (see (Shinde et al., 2017)) students were satisfied with various intervention activities (i.e., debates, discussions, storytelling, roleplays, the development of a monthly wall-magazine, and the speak-out box) Two SMs and TSMs from lower-performing schools highlighted a lack of support from fellow teachers, as these teachers did not approve of the intervention or consider it important. Overall, school principals, teachers, TSMs, and SMs perceived the intervention as needed, acceptable & feasible. A school dropped out due to concerns regarding sexual health content. Facilitators & barriers were identified & addressed with strategies. *Professional*	SA were significantly higher in the TSM intervention, in comparison to the AEP control; crude TSM=1.96 (.004), adjusted TSM OR=1.87 (.008). There were no significant differences between the counsellor-led intervention & the AEP control: crude SM=1.12 (.64). Adjusted: SM OR =1.11(.68).	Overall bias assessment BD1a, BD1b, BD2, BD3, BD5=Low

		characteristics SM selection criteria included local community members, no professional health training, & at minimum individuals aged 21 years & high school educated. TSM were nominated by principals.		
Silverstone et al. (2017)	**Core elements:** EMPATHY comprised of identification of a high-risk group, A CBT-based online intervention for high-risk group, referral to external psychiatric services, interactions with resiliency coaches & OVK intervention designed to reduce depression. **Delivery:** Non-school trained personnel resiliency coaches facilitated the OVK & screening, supervised CBT interventions & were accessible to students. School staff assisted interviewing at-risk students & contacting parents for referrals.	**Macro-level** *Region* North America. *Leadership and human capital S*chool district assisted in intervention design. This multi-sectoral community partnership was sparked by an increase in youth suicides in the school district. *Policies and financing* Program funding was suddenly terminated suddenly. *Professional characteristics* Staff delivering EMPATHY had experience working with youth and were required not to be highly qualified individuals. **School-level** Middle schools, one special school & high schools **Individual-level** *Perceptions of and attitudes to the intervention* Feedback made youth feel that issues were taken seriously. Friends of the those identified also became aware of supports. Parents were positive about how this process helped their understanding of their children's issues.	Any suicide risk (%) Baseline=117 (6.2%) T1=84 (4.5%) p<.001 T3=57 (3.0%) p<.001 T4=73 (3.9%) p <.001.	Overall bias assessment BD1=Critical BD2=Serious BD3, BD7 =Moderate BD4, BD5=Low.
Tang et al. (2009)	**Core elements:** IPTA-IN is an interpersonal psychotherapy intervention which considers suicide as a comorbid symptom of depression. IPTA-IN focus was based on issues which emerged as most important for participants & targets interpersonal relationships, role transition & grief. Stakeholders including parents, teachers & community members attended meetings where information on the study & treatment were discussed. TAU offered psychoeducation and counselling **Delivery** Trained school counsellors & intern counselling psychotherapists delivered IPT-A-IN over 50-min face-to-face sessions weekly & a 30-min phone follow up weekly, over 6 weeks. Teachers conducted 2 sessions per week for TAU (parents could attend).	**Macro-level** *Region* Asia. *Leadership and human capital* This school cooperated with the Department of Psychiatry of a medical center **School-level** *School characteristics* Urban junior & a senior school. *Classroom climate* One participant dropped out due to being unwilling to continue working with a teacher. Two others experienced stress related to attention from teachers & that information would be shared parents. **Individual-level** *Perceptions of and attitudes to the intervention* Many adolescents were unwilling to invite their family to join sessions & many parents of the adolescents didn't have time to. Most students were willing to accept IPT-A-IN in campus instead of in hospital. *Professional characteristics* Intern counselling psychotherapists had hospital-based clinical training in hospitals & at least 6 months of regular weekly supervision.	Using the preintervention scores as covariates, the IPT-A-IN group had lower post-intervention severity of SI (M =8.97, SD=10.77) than the TAU condition (M =16.29, SD=7.99) F=12.48, p< .05.	Overall bias assessment BD1, BD2=High risk. BD3, BD5=low

Torcasso and Hilt (2017)	**Core elements:** A national youth mental health & suicide risk screening program, teaching signs of suicide, mental health stressors & coping strategies in health classes. Case managers worked with parents for the case management duration. Control data consisted of different students who completed the same outcome questions. **Delivery:** TeenScreen team includes program coordinators, screeners, debriefers, clinicians, & case managers (usually community mental health practitioners). The intervention was up to 90 days.	**Macro-level** *Region* North America. *Leadership and human capital* Teenscreen was implemented following an increase in the county's youth suicide rate, therefore community resources were allocated for the programme **School-level** *School characteristics* Moderately-sized Midwestern high school.	The change in students considering suicide; effect= -1.59, *p*=.015[-2.87,-.31] & SA 2 or more times; effect=-.49, *p*=.03[-.93,-.04] over time was only significant in the intervention, suggesting decreases in outcomes. No changes in the other suicide outcomes.	Overall bias assessment BD2= Critical BD1= Serious, BD4=Low BD3, BD5, BD7= Moderate.
Vieland et al. (1991)	**Core elements:** A curriculum-based intervention which emphasized support networks in buffering stress, confronting peers, & community resources **Delivery:** The course was provided in a regular classroom by trained teachers. The programme lasted 1.5 hours.	**Macro-level** *Region* North America. **School-level** *School characteristics* Nonurban, enrolment size ranged from 750-1,450, Classroom climate **Individual-level** *Perceptions of and attitudes to the intervention* Refusal by teachers to participate at one or the other collection phase.	There was no significant effect of the intervention in reducing SA.	Overall bias assessment BD1a=High risk BD1b, BD2, BD3, BD5=Low.
Wasserman et al. (2015)	**Core elements:** YAM=universal intervention consisting of role-play sessions with interactive workshops lectures, booklet, & classroom educational posters & raised awareness about risk & protective factors, knowledge about depression & anxiety and to enhance coping skills. QPR=A gatekeeper training module targeting teachers/school personnel. Profscreen=Screening intervention. Students who screened at or above cut-off points were referred to assessment & clinical services **Delivery:** QPR=Teachers & school personnel YAM=Delivered by instructors. Profscreen=Health professionals delivered screening. All interventions were undertaken in a 4-week period.	**Macro-level** *Region* Europe. Analyses were conducted across study sites (see Carli et al. (2013) for more detail). Differences across sites identified included Israel had a low response rate of schools (37.5%), (overall response rate=67.8%), which was hypothesised to be attributed to attitudes of school principals' against using school time for additional non-educational activities, due to many activities already taking place. Cork, Ireland, study site had the lowest student participation rate (64.6%) which was speculated to be due to an environmental emergency (flooding). *Leadership and human capital* Site translation coordinators implemented cultural adaptation, and focus groups provided cultural adaptation feedback. **School-level** *School characteristics* Public schools. **Individual-level** *Perceptions of and attitudes to the intervention* coordinators indicated that adolescents greatly enjoyed taking part in the intervention (see (Wasserman, Hoven, Wasserman, Carli, Sarchiapone, Al-Halabí, Apter, Balazs, Bobes, Cosman, Farkas, Feldman, Fischer, Graber,	No significant differences between intervention groups & the control group were recorded at T1. At T2 YAM was associated with a significant reduction of SA OR .45, 95% CI .24–.85; *p*=.014) & severe SI (.50, .27–.92; *p*=.025), compared with controls.	Overall bias assessment BD1a, BD1b, BD2, BD3, BD5=Low.

		Haring, Herta, Iosue, Kahn, Keeley, Klug, McCarthy, Tubiana-Potiez, Varnik, Varnik, Žiberna, et al., 2012)]). Key themes from interviewing youth who engaged with the YAM included thoughts of usefulness and inadequacies of YAM, the YAM as helpful to supporting friends, appreciative of the YAM's focus on everyday experiences, ability to direct programme content of role-plays, and opinions emerging from YAM participation, preference of the programme to regular classes and uneasiness with some programme elements such as expressing perspectives and participation in role plays (Wasserman et al. 2018).		
Wyman et al. (2010)	**Core elements:** One focus was on 8 protective ''sources of strength'' & skills for increasing those resources for themselves and other students. Another focus was on engaging adults to help suicidal peers. (1) school & community preparation (2) peer leader training & (3) schoolwide messaging. **Delivery:** Over 4 months. Trained student peer leaders led the intervention & were mentored by adult advisors, engaged with trusted adults in safe suicide prevention messaging encouraged students to identify their trusted adults, & disseminated messages about SOS through presentations, public service announcements & messages on social network sites.	**Macro-level** *Region* North America. *Leadership and Human Capital* Support from the New York State Office of Mental Health, & the JDS Foundation. **School-level** *School characteristics* non-significant intervention effect on peer leader referrals in smaller, rural schools and not in large metropolitan schools. **Individual-level:** *Professional characteristics* School personnel, students & researchers identified peer leaders who were considered as "voices as heard" & with the aim of identifying a diverse group of students reflecting many friendship groups in schools.	SI decreased at over time for both conditions - no statistically significant differences across conditions.	Overall bias assessment BD1a, BD1b, BD2, BD3, BD5=Low.

Note: M=Mean. SD=Standard deviation. SI=suicide ideation. SA=suicide attempts. SP=suicide planning. CDC=Centers for Disease Control and Prevention. ACT=Acknowledge, care and tell. ASIST= Applied Suicide Intervention Skills Training. TAU=treatment as usual. CAST=Coping and Support Training. KOICA=Korea International Cooperation Agency. PDHPE=Personal Development Health and Physical Education. CBT=cognitive behavioral therapy. OVK=Op Volle Kracht. OYHRC=Orygen Youth Health Research Center. YAM=Youth Aware of Mental Health Programme. QPR=Question, Persuade, Refer. SEL=Skills For Life Programme for Adolescents. IPT-A-IN=intensive interpersonal psychotherapy for depressed adolescents with suicidal risk. BSRB=Brief Suicide Risk Behavior Scale. AEP=Adolescence Education Program. TSM=Teacher as SEHER Mitra. SM=SEHER Mitra. SEHER = Strengthening Evidence base on scHool-based intErventions for pRomoting adolescent health programme). [a]Corresponding author provided this information via email. BD=Bias domain. *For cluster randomised control trial design studies:* BD1a=Bias arising from the randomisation process. BD1b=Bias arising from the timing of identification and recruitment of individual participants in relation to timing of randomisation. BD2=Bias due to deviations from intended interventions. BD3=Bias due to missing outcome data. BD5=Bias in selection of the reported result. *For randomised controlled trial design studies:* BD1=Risk of bias arising from the randomisation process. BD2= Risk of bias due to deviations from the intended interventions (*effect of assignment to intervention*). BD3=Missing outcome data. BD5=Risk of bias in selection of the reported result. *For non-randomised design studies:* BD1=Bias due to confounding. BD2= Bias in selection of participants into the study. BD3= Bias in classification of interventions. BD4= Bias due to deviations from intended interventions. BD5=Bias due to missing data. BD7=Bias in selection of the reported result.

Supplementary Table 5.1

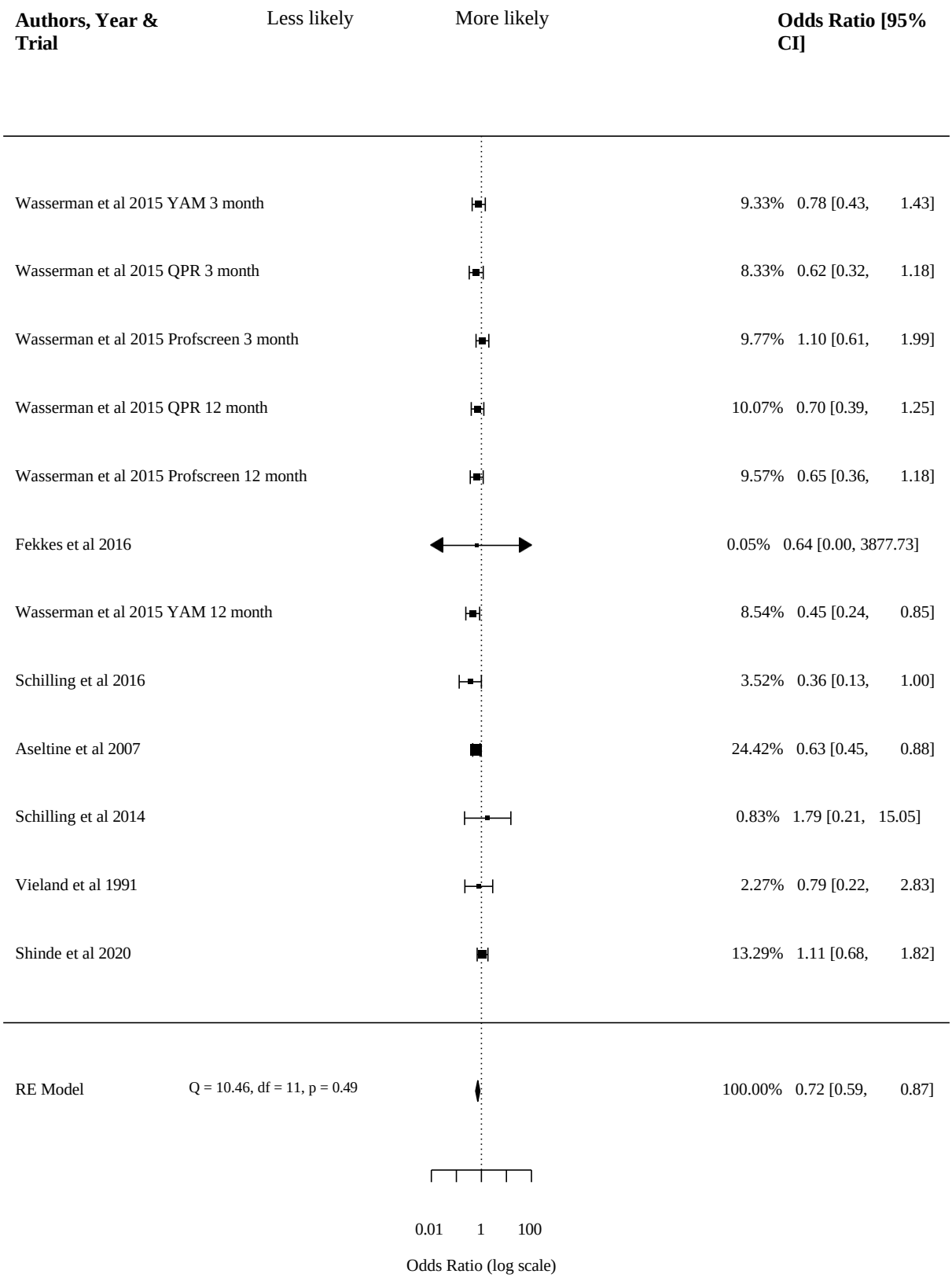
Amendments to Protocol for the Meta-ethnography

Protocol amendments	Rationale for amendments
Analysis of some first-order constructs without supporting second-order constructs.	For the most part first-order constructs were analysed alongside their second-order constructs. However, some first order constructs were reported in studies without corresponding second order constructs. These first order constructs were nonetheless included given: (1) that the distinction between first- and second-order constructs is not always straightforward considering that study authors decide on which first-order constructs are exemplar for their identified second-order constructs (Toye et al., 2014), and (2) the focus of youth voice in our review,.
Inclusion of studies which partially lacked conceptual depth.	We retained studies for synthesis which included some conceptual depth and instead excluded codes which lack conceptual depth in the synthesis stage to retain as much relevant data as possible. Furthermore, this practice is suitable to the present meta-ethnography given that we did not include a particularly large number of studies (<40 studies is considered a suitable number of papers) and aligns with the argument that including studies which contribute minimally to the synthesis does not distort the interpretative findings, given that in qualitative synthesis the important aspect is the power of the ideas (Campbell et al., 2011). Toye et al. (2014) similarly did not exclude studies in entirety that included 'untranslatable' concepts.
Lack of reporting of school demographics	Although school demographics were extracted school characteristics are not included in the data extraction table due to both lack of reporting and consistency of reporting

APPENDIX B.

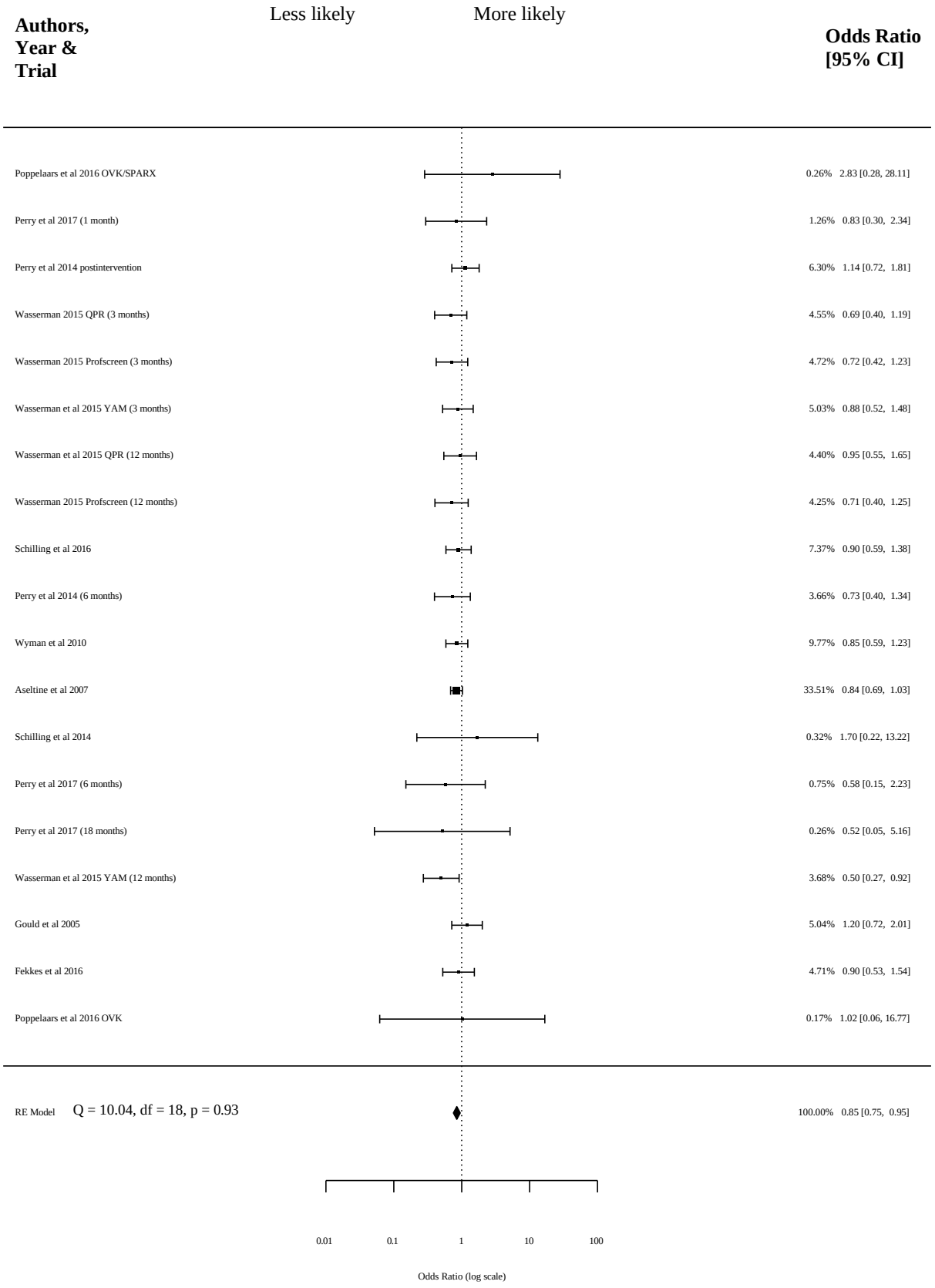
Supplementary Figure 2.1

Forest Plot of Adjusted Suicide Attempts Odds Ratios


Authors, Year & Trial
Less likely
More likely
Odds Ratio [95% CI]
Wasserman et al 2015 YAM 3 month
9.33% 0.78 [0.43, 1.43]
Wasserman et al 2015 QPR 3 month
8.33% 0.62 [0.32, 1.18]
Wasserman et al 2015 Profscreen 3 month
9.77% 1.10 [0.61, 1.99]
Wasserman et al 2015 QPR 12 month
10.07% 0.70 [0.39, 1.25]
Wasserman et al 2015 Profscreen 12 month
9.57% 0.65 [0.36, 1.18]
Fekkes et al 2016
0.05% 0.64 [0.00, 3877.73]
Wasserman et al 2015 YAM 12 month
8.54% 0.45 [0.24, 0.85]
Schilling et al 2016
3.52% 0.36 [0.13, 1.00]
Aseltine et al 2007
24.42% 0.63 [0.45, 0.88]
Schilling et al 2014
0.83% 1.79 [0.21, 15.05]
Vieland et al 1991
2.27% 0.79 [0.22, 2.83]
Shinde et al 2020
13.29% 1.11 [0.68, 1.82]
RE Model
Q = 10.46, df = 11, p = 0.49
100.00% 0.72 [0.59, 0.87]
0.01
1
100
Odds Ratio (log scale)

Supplementary Figure 2.2

Forest Plot of Adjusted Suicidal Ideation Odds Ratios


Authors, Year & Trial
Less likely
More likely
Odds Ratio [95% CI]
Poppelaars et al 2016 OVK/SPARX 0.26% 2.83 [0.28, 28.11]
Perry et al 2017 (1 month) 1.26% 0.83 [0.30, 2.34]
Perry et al 2014 postintervention 6.30% 1.14 [0.72, 1.81]
Wasserman 2015 QPR (3 months) 4.55% 0.69 [0.40, 1.19]
Wasserman 2015 Profscreen (3 months) 4.72% 0.72 [0.42, 1.23]
Wasserman et al 2015 YAM (3 months) 5.03% 0.88 [0.52, 1.48]
Wasserman et al 2015 QPR (12 months) 4.40% 0.95 [0.55, 1.65]
Wasserman 2015 Profscreen (12 months) 4.25% 0.71 [0.40, 1.25]
Schilling et al 2016 7.37% 0.90 [0.59, 1.38]
Perry et al 2014 (6 months) 3.66% 0.73 [0.40, 1.34]
Wyman et al 2010 9.77% 0.85 [0.59, 1.23]
Aseltine et al 2007 33.51% 0.84 [0.69, 1.03]
Schilling et al 2014 0.32% 1.70 [0.22, 13.22]
Perry et al 2017 (6 months) 0.75% 0.58 [0.15, 2.23]
Perry et al 2017 (18 months) 0.26% 0.52 [0.05, 5.16]
Wasserman et al 2015 YAM (12 months) 3.68% 0.50 [0.27, 0.92]
Gould et al 2005 5.04% 1.20 [0.72, 2.01]
Fekkes et al 2016 4.71% 0.90 [0.53, 1.54]
Poppelaars et al 2016 OVK 0.17% 1.02 [0.06, 16.77]
RE Model Q = 10.04, df = 18, p = 0.93 100.00% 0.85 [0.75, 0.95]
0.01
0.1
1
10
100
Odds Ratio (log scale)

APPENDIX C

Supplementary Figure 6.1 Sample research diary excerpt

18/5/21

Post YPAG meeting

It was an eye-opening experience having the YPAG input into the focus group question development. It helped me realise that I was approaching the design of the questions from my own perspective as a researcher. The YPAG highlighted the jargon and inaccessible words and where clarity was needed.. the YPAG pointed out that some of the questions I was planning to ask were more than likely going to draw a strong reaction from the youth and advised that I should make it more clear which type of perspective I want by using phrases such as “in general” or “in your own personal experience”. This made me aware of the need to: (1) rephrase the questions, (2) restructure questions so that I am not starting with the most intense questions and the importance of structuring the focus group with incorporating the photos in between the questions.

Supplementary Figure 6.2 The MYSTORY Study Participant Information Sheet

EHSREC Approval No: 2020_06_22_EHS

PARTICIPANT INFORMATION SHEET

Mental Health of Youth (MY) Story; Sharing of Mental Health and Suicide Prevention Perspectives of Youth

Dear Volunteer,

Researchers in Department of Psychology, University of Limerick, are carrying out a study on young people's perceptions of mental health and suicide prevention, through the creation and discussion of images.

What is the study about?

This study aims to explore perspectives of youth mental health and suicide prevention of those aged between 15-19 years of age using an adapted Photovoice activity, by the creation of images (i.e. digitally creating images or taking a photograph) which you identify to represent mental health.

What will you have to do?

If you are under 18 years of age you will have to provide assent and your parents/guardians will have to provide consent for you to participate. If you are 18 years of age or over you will only have to provide consent. You will be invited to take part in a 2-hour focus group. If conducted online these will take place on Microsoft Teams, a UL approved platform or at XXXXXXXXX if conducted in person. The focus groups will involve 4-8 youth in a group setting. The focus groups will involve 4-8 youth in a group setting.

Pre-focus group

After you provide assent/consent and/or your parent provides consent, and an email detailing the activity and pre-focus group tasks will be sent to you both.

Workshops facilitated by the by the researchers and XXXXXXXXXXXX will be conducted prior to the focus group. These will take place online on Microsoft Teams, a UL approved platform. This will provide comprehensive instructions to you on how to prepare for the focus group, including how to create these images or take the photos. There are no right and wrong choices to the images as it is based on your own perspective, and detailed instructions regarding this task will be covered in the workshop (including what content is considered non-appropriate).

The researchers will be available to answer any questions over email in relation to this task. A list non-appropriate content will be included in the email to assist you in the pre- focus group task of creating images (e.g. images containing racism or violence). The researchers will conduct a comprehensive screening of these images prior to the focus group, to ensure the safety of everyone.

During the focus group

The focus group will involve the discussion of key topics in relation to the images which have been chosen to represent positive mental health by all the participants. These key discussion topics include 1) Positive mental health 2) Youth mental health 3) Effective suicide prevention 4) The role of schools in mental health and suicide prevention. The researchers are primarily interested in your perspectives on these topics, **so there are no right or wrong answers**. The focus group will be video-recorded/audio-recorded but will only be used by the researcher to conduct data analysis on anonymous data. Participants

will be reminded before the video-recording begins that they are free to turn off their cameras. No one else will have access to these recordings to ensure the privacy of those who are taking part.

If conducted in person, there will be a minimum of 4 and maximum of 8 participants per focus groups, depending on the size of the room and capacity to social distance by at least 2 metres. All individuals involved will have to wear a face mask for the duration of the focus group. Hand sanitiser will be provided at all times.

What are the benefits?

The potential benefits to being involved in the focus group is enjoying contributing to knowledge and sharing your thoughts on youth mental health with other young people, in a safe and secure environment. You may find that this exercise improves your knowledge on mental health in general.

What are the risks?

As this focus group deals with topics regarding mental health and suicide, this may be upsetting or uncomfortable for some people. For these reasons, the research team advises that people should not participate in this study if any the following are applicable:

- I think I would be uncomfortable discussing topics related to suicide and mental health in a group setting, or with people that I do not know
- I am worried that I may become distressed discussing suicide or participating in a group setting where suicide is discussed.
- I am affected by suicide currently and I think I will experience personal difficulties discussing suicide or related mental health difficulties (for example if a family member or a friend/peer of the participant has recently attempted suicide)
- I am currently experiencing self-harm and/or suicidal thoughts

There is a small risk that even if the above does not apply to you, the focus group may still cause distress. Psychological distress on a scale of 0 (no distress) to 10 (extreme distress) will be measured before, during and after the focus group using a validated Psychological Distress Measure. To provide support to any participant feeling upset or distressed during the focus group there will be a mental health professional present to assist anyone who needs it. There will also be a Well-being plan in place to ensure that well-being of the participant's is a priority during the focus group.

What if I do not want to take part?

Participation in this study is voluntary and **you can choose not to take part or to stop your involvement in this study at any time.** You can choose to not participate during the focus group if you wish, there will be researchers and mental health professionals there to ensure that you can exit the study at any stage.

What happens to the information?

The information that is collected will be kept private and stored securely and safely on the researchers' computer. The computers are protected with a password. Your name will not appear on any information. You will be assigned a fictitious name when the information is being written in a report by the researcher. The information that is gathered in the study will be kept for seven years. After this time, it will be destroyed.

Who else is taking part?

Participants will include youth aged between 15-19, who are advisory panel members of the XXXXXXXXXXXXX. Advisory Panel members of the XXXXXXXXXXXXX are also involved in informing how the research should be conducted, so that the study is engaging for participants. They will not be present at the focus group.

What if something goes wrong?
In the unlikely event that something goes wrong during the focus group session, the interview session will immediately stop until the researcher and young people are ready to restart the session or the session would be stopped completely.

What happens at the end of the study?
At the end of the study the information will be used to present results. The information will be completely anonymous. No students' name appears in any of the results. All data gathered from the research will be stored securely and safely by the researcher Ms. Eibhlin Walsh in their office for 7 years. Information that is stored on computer will be stored by Ms. Eibhlin Walsh on a computer that is password-protected.

What if I have more questions or do not understand something?

If you have any questions about the study, you may contact either of the researchers. It is important that you feel that all your questions have been answered.

What happens if I change my mind during the study?

At any stage should you feel that you want to stop taking part in the study, you are free to stop and take no further part. There are no consequences for changing your mind about being in the study.

Procedure for applying to participate in this study

We require the parent consent form and the participant consent/assent and photo release forms by the **2nd of February 2021** (we just require the participant consent form if the participant is over 18 years of age) emailed to Eibhlin.walsh@ul.ie. Please sign your signature digitally or alternatively take a photo of your signature and paste it to the forms. The researchers will confirm with signatories over the phone once the consent and assent forms have been received.

Thank you for taking the time to read this. We would be grateful if you would consider participating in this study.

Investigators

Dr Jennifer McMahon

Lecturer in Psychology,

Department of Psychology,

University of Limerick,

Tel (061) 202663

jennifer.mcmahon@ul.ie

Ms. Eibhlin (Helen) Walsh

Postgraduate Researcher,

Department of Psychology,

University of Limerick,

0858249081

eibhlin.walsh@ul.ie

This research study has received Ethics approval from the Education and Health Sciences Research Ethics Committee (2020_06_22_EHS). If you have any concerns about this study and wish to contact someone independent, you may contact: Chair Education and Health Sciences Research Ethics Committee, EHS Faculty Office, University of Limerick, Tel (061) 234101

If you feel you need any support, please contact and/or follow the below advice:

Pieta House **Supporting people and communities in crisis** Tel: 1800 247 247 Text: HELP to 51444
Samaritans **Free 24 hour listening service for anyone in distress**
Tel: 116 123
Email: jo@samaritans.org
Aware **Providing support through depression**
Tel: 1890 303 302.
Email: wecanhelp@aware.ie
Childline **Providing 24-hour service for children and young people up to 18 years of age.** Tel: 1800 666 666
Grow **Helps people who have suffered, or are suffering, from mental health problems** Tel: 1890 474 474
Teen line **Provides a listening service for teenagers feeling fed-up and distressed**
Tel: 1800 833 634

- If you or someone you know is at risk of suicide or self-harm:
- Phone or go to your local doctor
- Call 999 or 112
- Go to your nearest A & E department if you are in immediate danger https://www.hse.ie/eng/services/maps/

Know the symptoms of COVID-19.
They are:

- a fever (high temperature - 38 degrees Celsius or above)
- a cough - this can be any kind of cough, not just dry
- shortness of breath or breathing difficulties
- loss or change to your sense of smell or taste
- flu like symptoms

If you have symptoms, self-isolate and contact your GP immediately.

RESEARCH PRIVACY NOTICE

Introduction

This Research Privacy Notice governs the use and storage of your personal data by the University of Limerick (the "University"). The processing of this data is carried out in accordance with the General Data Protection Regulation (GDPR)/Data Protection Acts 1988-2018 ("Data Protection Law") and in accordance with this Research Privacy Notice.

Any personal data which you provide to the University as part of this research project will be treated with the highest standards of security and confidentiality, in accordance with Irish and European Data Protection Law. This Notice sets out details of the information that we collect, how we process it and who we share it with. It also explains your rights under data protection law in relation to our processing of your data.

1. Title and Purpose of the research project

Mental Health of Youth (MY) Story; Sharing of Mental Health and Suicide Prevention Perspectives of Youth

This study aims to explore perspectives of youth mental health and school-based suicide prevention of those aged between 15-19 years of age using a Photovoice activity, by the creation of images which your child identifies to represent mental health to them.

2. Research Ethics Committee

2.1 Ethical approval was granted by the Education and Health Sciences Research Ethics Committee on the 12th of January 2021. The research ethics approval number is 2020_06_22_EHS.

3. Identity of the Data Controller(s)

3.1 The Data Controller is the University of Limerick, Plassey, Limerick.

4. Identity and Contact Details of the Data Protection Officer of the Data Controller(s)/

4.1 You can contact the University of Limerick's Data Protection Officer at dataprotection@ul.ie or by writing to Data Protection Officer, Room A1-073, University of Limerick, Limerick.

5. The Identity of the Principal Investigator

5.1 The Principal Investigator for this Research Project is Dr Jennifer McMahon, Lecturer, The Department of Psychology, University of Limerick.

6. How we will use your personal data

6.1 The University must process your personal data in order to undertake research relating to this project/study. Data will be collected directly from the participants, through voice/video recording of focus groups. This data will be then transcribed to text. This data will be analysed to better understand how perspectives on mental health can inform school-based suicide prevention.

6.2 The personal data collected and used in this research could include: identifying information (name, contact details and photographs), contact information (email addresses/phone numbers), family information (parents/guardians names), behavioural information (i.e. topics of interest), physical characteristics (i.e. age and gender) and historical information (i.e. city of birth).

6.3 You provide us with your personal data to enable us to undertake the research project. Participation in this research project is voluntary and participants may withdraw without giving any reason. Should you wish to withdraw, you may do so by contacting the Principal Investigator at jennifer.mcmahon@ul.ie or in writing to DM035, Main Building, University of Limerick, Castletroy, Ireland.

7. Lawful Basis for University Processing Personal Data

7.1 Data Protection Law requires that the University must have a valid legal reason to process and use your personal data. This is often called a 'lawful basis'. GDPR requires us to be explicit with you about the lawful basis upon which we rely in order to process information about you.

7.2 The University is carrying out this research in the public interest and for scientific, historical or statistical purposes. In doing so, we are relying on Article 6(1)(e) of the GDPR. Where we are processing special category or sensitive personal data, we are relying on Article 9(2)(j) of GDPR. As required under Data Protection Law, we have appropriate safeguards in place in order to protect your personal data; these are set out in the next section.

8. Protecting Your Personal Data

8.1 We have the following measures in place to help ensure we keep your personal data safe:

- *All researchers at the University must adhere to University policies and procedures that tell our staff and students how to collect and use your information safely;*
- *Training is made available to all researchers to ensure our staff and students understand the importance of data protection and how to protect your personal data;*
- *The University has security arrangements and technical measures in place that ensure your information is stored safely and securely;*
- *All research projects involving personal data are reviewed and approved by a research ethics committee in line with University policies and procedures;*

- *Where a research project may involve a high risk, we first carry out a data protection impact assessment to assess risks and ensure adequate safeguards are in place;*
- *Where your personal data is processed for health research, we will always obtain your explicit consent in advance (in line with the Health Research Regulations 2018).*

8.2 Personal data collected for this research project will be pseudonymised within one month after collection and will be fully anonymised after 12 months. Truly anonymised data is not Personal Data. Once data is anonymised for the purposes of this research project, the terms of this Privacy Notice will no longer apply.

9. Sharing Your Personal Data with Third Parties

9.1 The University will not disclose your personal data to third parties. [Anonymous data may be shared with third parties. In this situation, you will not be identifiable from any data we share with the third party.]

10. Transfer of personal data to Other Countries Outside the EEA

Not relevant.

11. How Long Will We Keep Your Data

11.1 All Personal Data collected for this research project will be retained for seven years.

12. Your Rights

12.1 Depending on the lawful basis which we rely on to process your Personal Data, you may have the right to request that we:

- *provide you with information as to whether we process your data and details relating to our processing, and with a copy of your personal data;*
- *rectify any inaccurate data we might have about your without undue delay;*
- *complete any incomplete information about you;*
- *under certain circumstances, erase your Personal Data without undue delay;*
- *under certain circumstances, be restricted from processing your data;*
- *under certain circumstances, furnish you with the Personal Data which you provided us within a structured, commonly used and machine readable format;*

12.2 Requests for any of the above should be addressed by email to the Principal Investigator at Jennifer.mcmahon@ul.ie AND the Data Protection Officer at dataprotection@ul.ie. Your request will be processed within 30 days of receipt. Please note, however, it may not be possible to facilitate all requests, for example, where the University is required by law to collect and process certain personal data including that personal information that is required of any research participant.

12.3 It is your responsibility to let the Principal Investigator know if your contact details change.

13. Queries, Contacts, Right of Complaint

13.1 Further information on Data Protection at the University of Limerick may be viewed at www.ul.ie/dataprotection. You can contact the Data Protection Officer at dataprotection@ul.ie or by writing to Data Protection Officer, Room A1-073, University of Limerick, Limerick.

13.2 You have a right to lodge a complaint with the Office of the Data Protection Commissioner (Supervisory Authority). While we recommend that you raise any concerns or queries with us first at the following email address jennifer.mcmahon@ul.ie, you may contact that Office at info@dataprotection.ie or by writing to the Data Protection Commission, 21 Fitzwilliam Square South, Dublin 2, D02 RD28.

Supplementary Figure 6.3 The MYSTORY Study Participant Assent/Consent Form

EHSREC Approval No: 2020_06_22_EHS

FACULTY OF EDUCATION AND HEALTH SCIENCES

RESEARCH ETHICS COMMITTEE (EHSREC)

PARTICIPANT Ethical ASSENT/CONSENT

Title of Study: Mental Health of Youth (MY) Story; Sharing of Mental Health and Suicide Prevention Perspectives of Youth

Should you agree to participate in this study please read the statements below and if you agree to them, please sign the consent form.

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me, and I have full knowledge of how the information collected will be used.
- I am aware that my participation in this study will be audio/video recorded and I agree to this. However, should I feel uncomfortable at any time, I can request that the recording software be switched off.
- I am aware that such information may also be used in future academic presentations and publications about this study.

- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation without having to explain or give a reason, up to a period of two weeks after the data collection is completed.
- I know that I have been asked not to discuss the content of the focus group discussion, or the identity of its participants with anyone.
- I acknowledge that while the researcher has asked all focus groups participants to maintain confidentiality in the above manner, the researcher cannot guarantee that individual participants will adhere to this request.
- I acknowledge that the researcher does guarantee that they will not use my name or any other information, that would identify me in any outputs of the research.
- I declare that I have read and fully understand the contents of the Research Privacy Notice.
- I am aware that the personal contacts and relevant medical details that my parent/guardian will state on the parental consent form will be inputted on to the Well-Being Plan. The Well-being plan will be emailed to me prior to the focus group. These details will not be used for any other purposes.
- I am aware that this study involves discussion of topics of sensitive nature, including mental health and suicide. As stated in the information sheet, I am aware the research team advises that I should not participate in this study if any the following are applicable:
    - I think I would be uncomfortable discussing topics related to suicide and mental health in a group setting, or with people that I do not know
    - I am worried that I may become distressed discussing suicide or participating in a group setting where suicide is discussed.
    - I am affected by suicide currently and I think I will experience personal difficulties discussing suicide or related mental health difficulties (for example if a family member or a friend/peer of the participant has recently attempted suicide)
    - I am currently experiencing self-harm and/or suicidal thoughts

- I am aware that this study includes a confidentiality breach. Specifically, if I confide in the research team regarding being at harm or being a harm to themselves or others, there will be a breach in confidentiality and a mental health professional will be contacted and the relevant authorities will be contacted. I understand that this procedure is in the interest of my safety and the safety of others and is informed by the University of Limerick Child Safety and Safe-guarding Statement.
- Due to contamination risks of COVID-19 I understand that I will need to supply an email address I reguarly use so that I can be emailed materials needed to take part in the study (i.e. well-being plans, photos/images I create, Psychological Distress Thermometer and debrief sheet)

_____ _____

Signature of Participant Date

Participant email address: _____

Yes **No**

Consent to Contact about Similar Future Research

I explicitly consent to the University contacting me as part of current or similar future research and holding my contact details on its database for the purpose of contacting me. ☐ ☐

_____ _____

Signature of Investigator Date

EHS RESEARCH ETHICS COMMITTEE

Data Protection Consent Section: Focus Groups

I, the undersigned, declare that I am freely giving specific, informed and an unambiguous consent to the University to process my Personal Data for the purposes of undertaking the research project entitled "Mental Health of Youth (MY) Story; Sharing of Mental Health and Suicide Prevention Perspectives of Youth"

	Yes	No
• I declare that I have read and fully understand the contents of the Research Privacy Notice, which is appended at Appendix 1 of this Consent form and I explicitly consent to my personal data being processed in line with this Research Privacy Notice.	☐	☐
• I explicitly consent to the University contacting me as part of current or similar future research and holding my contact details on its database for the purpose of contacting me.	☐	☐

Signatures

1.

_ _____ ___ _____

Name of participant [IN CAPITALS] Signature Date

This research study has received Ethics approval from the Education and Health Sciences Research Ethics Committee (2020_06_22_EHS). If you have any concerns about this study and wish to contact someone independent, you may contact: Chair Education and Health Sciences Research Ethics Committee, EHS Faculty Office, University of Limerick, Tel (061) 234101

Supplementary Figure 6.3 The MYSTORY Study Parent/Guardian Information Sheet

EHSREC No: 2020_06_22_EHS

PARENT/GUARDIAN INFORMATION SHEET

Mental Health of Youth (MY) Story; Sharing of Mental Health and Suicide Prevention Perspectives of Youth

Dear Parent/Guardian,

Researchers in the Department of Psychology, University of Limerick, are carrying out a study on young people's perceptions of mental health and suicide prevention, through the creation and discussion of images.

What is the study about?

This study aims to explore perspectives of youth mental health and suicide prevention of those aged between 15-19 years of age using an Photovoice activity, by the creation of images (i.e. digitally creating images or taking a photograph) which your child identifies to represent mental health to them.

What will your child have to do?

Your child will be invited to take part in a two-hour focus group. These will take place online on Microsoft Teams, a UL approved platform if conducted online or at XXXXXXXX if conducted in person. The focus groups will involve 4-8 youth in a group setting.

Pre-focus group

This study involves the use of a Well-being plan for each child which includes personal contacts and relevant medical details, emergency contact details (such as Jigsaw and Teenline) and a list of self-care and coping strategies (such as Headspace meditation steps). After you consent to your child's participation and your child provides assent to participate in the study, an email detailing the activity and pre-focus group tasks will be sent to you both.

Workshops facilitated by the researchers and XXXXXXXXXXXX will be conducted prior to the focus group. These will take place online on Microsoft Teams, a UL approved platform. This will provide comprehensive instructions to your child on how to prepare for the focus group, including how to create images or take the photos. There are no right and wrong choices to the images as it is based on your child's own perspective, and detailed instructions regarding this task will be covered in the workshop (including what content is considered non-appropriate).

The researchers will be available to answer any questions over email in relation to this task. A list non-appropriate content will be included in the email to assist your child in the pre- focus group task of creating images (e.g. images containing racism or violence). The researchers will conduct a comprehensive screening of these images prior to the focus group, to ensure the safety of everyone.

During the focus group

The focus group will involve the discussion of key topics in relation to the images which have been chosen to represent mental health by all the participants. These key discussion topics include 1) Positive mental health 2) Youth mental health 3) Effective suicide prevention 4) The role of schools in mental health and suicide prevention. The researchers are primarily interested in your child's perspectives on these topics, **so there are no right or wrong answers**. The focus group will be video-recorded/audio-recorded but will only be used by the researcher to conduct data analysis on anonymous data. Participants will be reminded before the video-recording begins that they are free to turn off their cameras. No one else will have access to these recordings to ensure participant anonymity.

If the focus group is conducted in person there will be a minimum of 4 and maximum of 8 participants per focus groups, depending on the size of the room and capacity to social distance by at least 2 metres. All individuals involved will have to wear a face mask for the duration of the focus group. Hand sanitiser will be provided at all times.

What are the benefits?

The potential benefits to your child being involved in the focus group is enjoying contributing to knowledge and sharing their thoughts on youth mental health with other young people, in a safe and secure environment. Your child may find that this exercise improves their knowledge on mental health in general.

What are the risks?

As this focus group deals with topics regarding mental health and suicide, this may be upsetting or uncomfortable for some people. For these reasons, the research team advises that people should not participate in this study if any the following are applicable:

- You have concerns that your child could become distressed discussing suicide or participating in a group setting where suicide is discussed.
- Your child has been affected by suicide currently and therefore there could be personal difficulties discussing suicide or related mental health difficulties (for example if a family member or a friend/peer of the participant has recently attempted suicide).
- You have concerns that your child is currently experiencing self-harm and/or suicidal thoughts.

There is a small risk that even if the above does not apply to your child, the focus group may still cause distress. Psychological distress on a scale of 0 (no distress) to 10 (extreme distress) will be measured before, during and after the focus group using a validated Psychological Distress Measure. To provide support to any participant feeling upset or distressed during the focus group there will be a mental health professional present to assist anyone who needs it. The well-being plan will ensure that the well-being of the participant's is a priority during the focus group.

What if my child does not want to take part?

Participation in this study is voluntary and **you can choose for your child not to take part or to stop your involvement in this study at any time.** Your child can choose to not participate during the if you wish, there will be researchers and mental health professionals there to ensure that your child can exit the study at any stage.

What happens to the information?

The information that is collected will be kept private and stored securely and safely on the researchers' computer. The computers are protected with a password. Your child's name will not appear on any information. Your child will be assigned a fictitious name when the information is being written in a report by the researcher. The information that is gathered in the study will be kept for seven years. After this time, it will be destroyed.

Who else is taking part?

Participants will include youth aged between 15-19, who are advisory panel members of the XXXXXXXXXXXXX. Advisory Panel members of the XXXXXXXXXXXXX are also involved in informing how the research should be conducted, so that the study is engaging for participants. They will not be present at the focus group.

What if something goes wrong?
In the unlikely event that something goes wrong during the focus group session, the interview session will immediately stop until the researcher and student(s) are ready to restart the session or the session would be stopped completely.

What happens at the end of the study?
At the end of the study the information will be used to present results. The information will be completely anonymous. No student's name appears in any of the results. All data gathered from the research will be stored securely and safely by the researcher Ms. Eibhlin Walsh for 7 years. Information that is stored on computer will be stored by Ms. Eibhlin Walsh on a computer that is password protected.

What if I or my child has more questions?

If you or child has any questions about the study, you may contact either of the researchers. It is important that you and your child feel that all your questions have been answered.

What happens if my child changes their mind during the study?

At any stage should your child feel that they want to stop taking part in the study, they are free to stop and take no further part. There are no consequences for your child if they change their mind about being in the study.

<u>Procedure for applying to participate in this study</u>

We require the parent consent form, the participant assent/consent forms and the photo release forms by the **2nd of February 2021** (we just require the participant consent form if the participant is over 18 years of age) emailed to Eibhlin.walsh@ul.ie. Please sign your signature digitally or alternatively take a photo of your signature and paste it to the consent form. The researchers will confirm with signatories over the phone once the consent and assent forms have been received.

Thank you for taking the time to read this. We would be grateful if you would consider participating in this study.

Investigators

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This research study has received Ethics approval from the Education and Health Sciences Research Ethics Committee (2020_06_22_EHS). If you have any concerns about this study and wish to contact someone independent, you may contact: Chair Education and Health Sciences Research Ethics Committee EHS Faculty Office University of Limerick Tel (061) 234101

If you feel you need any support, please contact and/or follow the below advice:

Pieta House **Supporting people and communities in crisis**
Tel: 1800 247 247 Text: HELP to 51444
Samaritans **Free 24 hour listening service for anyone in distress**
Tel: 116 123 Email: jo@samaritans.org
Aware **Providing support through depression**
Tel: 1890 303 302. Email: wecanhelp@aware.ie
Childline **Providing 24-hour service for children and young people up to 18 years of age.**
Tel: 1800 666 666
Grow **Helps people who have suffered, or are suffering, from mental health problems**
Tel: 1890 474 474
Teen line **Provides a listening service for teenagers feeling fed-up and distressed**
Tel: 1800 833 634

- If you or someone you know is at risk of suicide or self-harm:
- Phone or go to your local doctor
- Call 999 or 112
- Go to your nearest A & E department if you are in immediate danger https://www.hse.ie/eng/services/maps/

Symptoms of COVID-19:

- a fever (high temperature - 38 degrees Celsius or above)
- a cough - this can be any kind of cough, not just dry
- shortness of breath or breathing difficulties
- loss or change to your sense of smell or taste
- flu like symptoms

If you have symptoms, self-isolate and contact your GP immediately.

Supplementary Figure 6.4 The MYSTORY Study Parent/Guardian Consent Form

EHSREC Approval No: 2020_06_22_EHS

FACULTY OF EDUCATION AND HEALTH SCIENCES RESEARCH ETHICS COMMITTEE (EHSREC)

PARENTAL/CARER ETHICAL CONSENT

Title of Study: Mental Health of Youth (MY) Story; Sharing of Mental Health and Suicide Prevention Perspectives of Youth

- I have read and understood the parent/carer information sheet.
- I understand what the study is about, and what my child's results will be used for.
- I understand where the research will be carried out.
- I understand that my child's name will not appear on any research data from this study.
- I give permission that my child's data can be used anonymously in report format and published output (e.g. journal publication).
- I am fully aware of all the procedures involving my child, and of any risks and benefits associated with the study.
- I know that my child's participation is voluntary and that I can withdraw my child's participation in the study at any stage without giving any reason.
- I am aware that the personal contacts and relevant medical details will be inputted on to the Well-Being Plan, which will be emailed to my child prior to the focus group. These details will not be used for any other purposes.
- I am aware that my child's participation in this study will be video-recorded/audio recorded and I agree to this. However, should my child or I feel uncomfortable at any time I/my child can ask that the recording equipment be switched off. I am entitled to an anonymised summary of the focus group if my child or I want to review it. I am fully informed as to what will happen to these recordings once the study is finished.
- Due to contamination risks of COVID-19 I understand that my child will need to supply an email address that they reguarly use so that they can be emailed materials needed to take part in the study (i.e. well-being plans, photos/images they create, Psychological Distress Thermometer and debrief sheet)
- I am aware that this study involves discussion of topics of sensitive nature, including mental health and suicide. As stated in the information sheet, I am aware the research team advise that my child **should not** participate in this study if any the following are applicable:

- You have concerns that your child could become distressed discussing suicide or participating in a group setting where suicide is discussed….
- Your child has been affected by suicide currently and therefore there could be personal difficulties discussing suicide or related mental health difficulties (for example if a family member or a friend/peer of the participant has recently attempted suicide).
- You have concerns that your child is currently experiencing self-harm and/or suicidal thoughts.

- I am aware that this study includes a confidentiality breach. Specifically, if my child confides in the research team regarding being at harm or being a harm to themselves or others, there will be a breach in child confidentiality and a mental health professional will be contacted and the relevant authorities will be contacted. I understand that this procedure is in the interest of the safety of my child and others and is informed by the University of Limerick Child Safety and Safe-guarding Statement.

- I am aware of the sensitive nature of this focus group, and therefore can confirm that myself or the child's other guardian will be available to meet with our child immediately after the allocated finishing time

Please fill out the following details, which will be incorporated into their own individualised Well-being plan

Parent/guardian name 1 _____

Mobile tel. _____

Home/work tel. _____

Parent/guardian name 2 or next of kin who is over 18 years of age) _____

Mobile tel. _____

Home/work tel. _____

Please state any relevant medical details regarding your child (such as medical conditions, medication and allergies) _____

After considering the above statements, I consent to my child's_____(name) involvement in this research project.

Name of Child: (please print): _____

Child's email address: _____

Name of Parent/Carer: (please print): _____

Parent Signature : _____ Date: _____

Signatures for Data Protection Consent

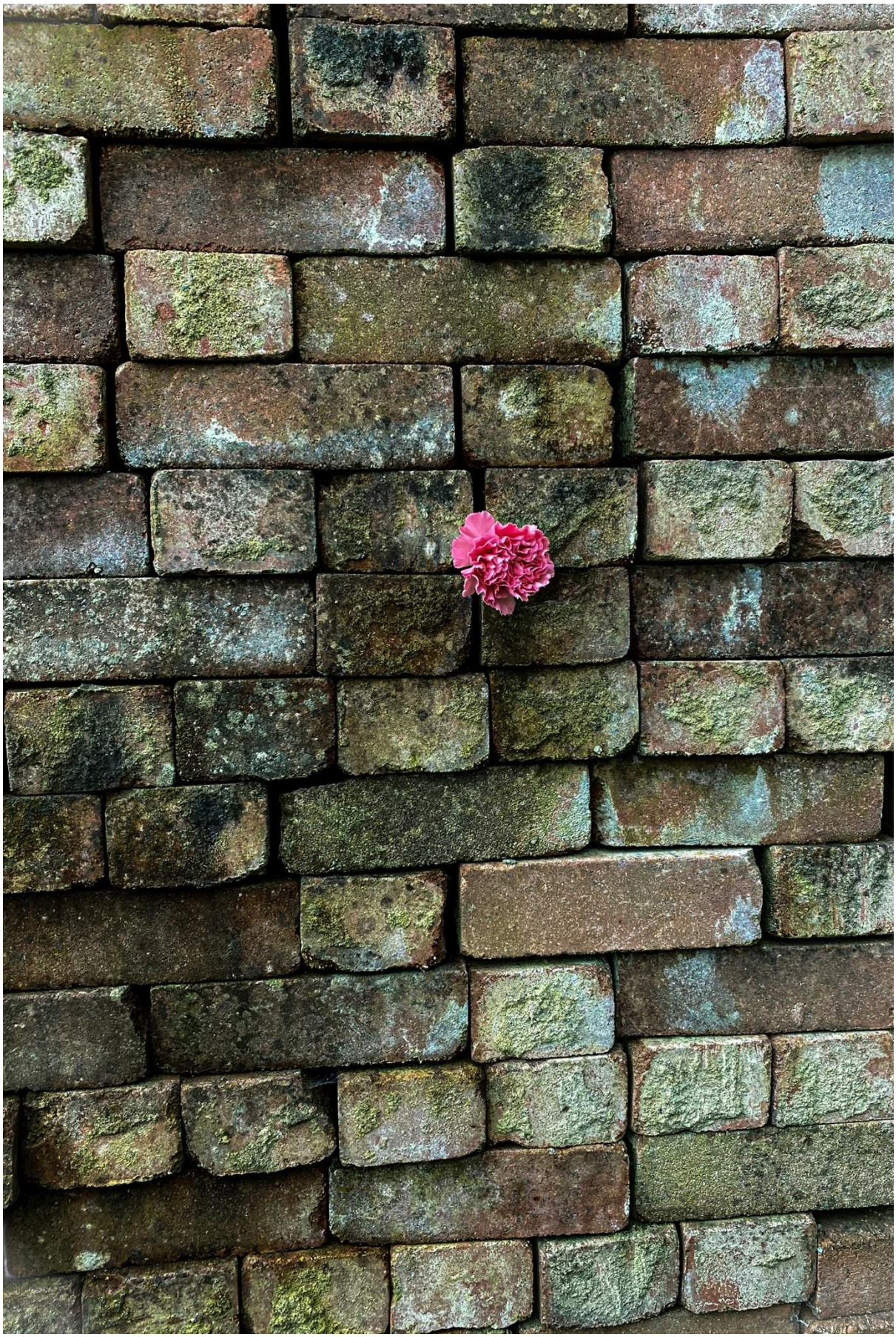
_____ _____

Name of Child's parent/guardian Signature Date

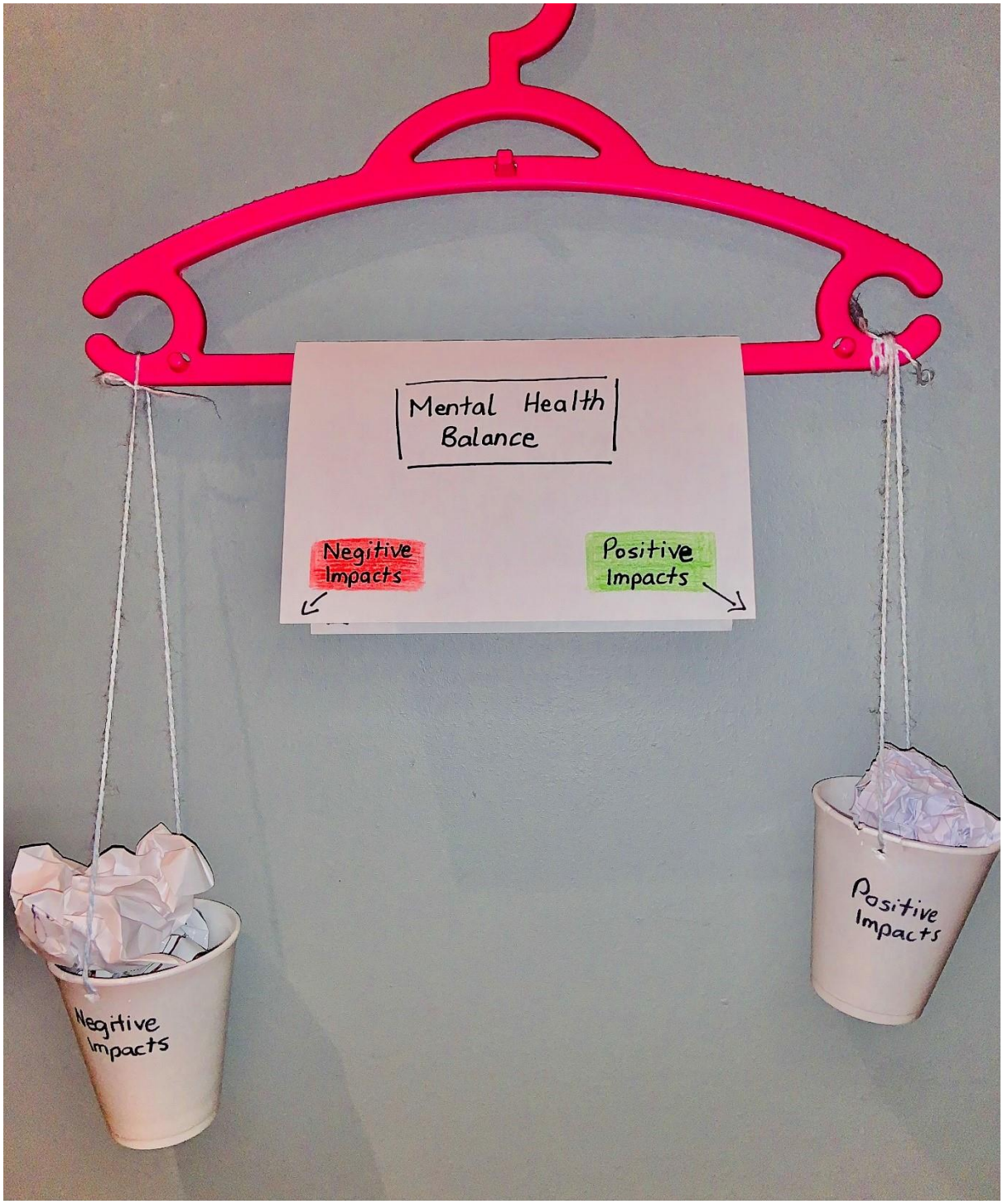
Investigator's Signature _____ Date: _____

Supplementary Figure 6.5 The MYSTORY study sample photograph

Supplementary Figure 6.6 The MYSTORY Study Sample Photograph



Supplementary Figure 6.7 The MYSTORY Study Sample Photograph



Supplementary Figure 7.1 Participant Photo Release Form

Photo Release Form (participant)

1) and 2) is **mandatory to be signed,** in order for you to participate in the MYSTORY study.

1) I give the researchers the right to publish images that I create, to be shared in the MYSTORY Photovoice focus group. These images will be discussed by myself and other participants taking part in the activity. The researchers will be screening images to ensure they are suitable (see checklist for appropriate images enclosed in X) before these are included in the focus group.

2) I am aware that the researchers will be advising participants in the workshops that if people photographed are identifiable, permission from individuals and their parent/legal guardian is required if they are under 18 years of age. The researchers will supply me with the respective permission forms and these will be required to be signed by the relevant parties for these images to be shared in the exhibition, social media platforms (by exhibition attendees) and in a report sharing the results.

Please print name here __ _____

Please sign here _____ Date _____

3) 4) and 5) are **not mandatory to be signed,** in order for you to participate in the activity.

All participants will be offered the opportunity to share their created images. I give the researchers permission to consider the previously described images that I will create to be shared as follows:

3) Exhibition for Mental Health Awareness Week 2021 (print format)

Please sign here _____ _____ Date _____

4) Social media platforms (by exhibition attendees)

Please sign here _____ _____ Date _____

5) In a report sharing the results

Please sign here _____ _____ Date _____

Supplementary Figure 7.2 Parent/Guardian Photo Release Form

Photo Release Form (PARENT/GUARDIAN)

1) and 2) is **mandatory to be signed,** in order for the child that you are a parent/legal guardian to, to participate in the MYSTORY study.

1) I give the researchers the right to publish images that the child that I am a parent/legal guardian to creates, to be shared in the MYSTORY Photovoice focus group. These images will be discussed by the child that I am a parent/legal guardian to and other children taking part in the activity. I understand that the images in this study may include the child that I am a parent/legal guardian to if they choose to include themselves in the images. The researchers will be screening images to ensure they are suitable (see checklist for appropriate images enclosed in X) before these are included in the focus group.

2) I am aware that the researchers will be advising participants in the workshops that if people photographed are identifiable, permission from individuals and their parent/legal guardian is required if they are under 18 years of age. The researchers will supply my child with the respective permission forms, and these will be required to be signed by the relevant parties for these images to be shared in the exhibition, social media platforms (by exhibition attendees) and in a report sharing the results.

Please print name here __ _____

Please sign here _____ Date _____

3) 4) and 5) are **not mandatory to be signed,** in order for you to participate in the activity.

All children will be offered the opportunity to share their created images. I give the researchers permission to consider the previously described images created by the child that I am a parent/legal guardian to be shared as follows:

3) Exhibition for Mental Health Awareness Week 2021 (print format)

Please sign here _____ _____ Date _____

4) Social media platforms (by exhibition attendees)

Please sign here _____ _____ Date _____

5) In a report sharing the results

Please sign here _____ _____ Date _____

Supplementary Figure 7.3 Sample Photo of the MYSTORY Exhibition