Case Study 1: Evidence Based Practice Report

Theme: Interventions implemented by parents.

How effective is the Strengthening Families Programme in supporting the reduction of Social, Emotional and Mental Health (SEMH) difficulties, with a specific focus on substance misuse, for families with children aged between 10-14 years in the United Kingdom (UK)?

Summary

The Strengthening Families Programme 10-14 UK (SFP 10-14 UK) is a preventative, universal programme which seeks to develop and enhance protective factors for young people at risk of developing social, emotional and mental health difficulties (SEMH) such as substance abuse. This paper conducted an extensive literature review to examine current research into the effectiveness of the SFP 10-14 UK in reducing SEMH difficulties, with a specific focus on substance abuse in young people aged 10-14 years. Findings from the studies were both qualitative and quantitative in nature. The qualitative analysis demonstrated a reduction in SEMH difficulties (e.g. Coombes, Allen & McCall, 2012), which was self-reported by children and young people, as well as by parents and in one study, school staff (Coombes, Allen & McCall, 2012). Quantitative findings showed mixed results of efficacy. The research into the efficacy of the SFP 10-14 UK remains in its infancy. Although extensive research has taken place in different countries, due to amendments made in different countries, this research may have limited external validity when trying to apply findings to the UK context. Further Randomised Controlled Trials (RCT) would be beneficial to developing the evidence base.

Introduction

Research has highlighted the importance of parental involvement in supporting academic performance (Jeynes, 2007). Family interventions can support with the positive development of parental skills, thus supporting not only children and young people's academic attainment and engagement, but reducing risk factors such as substance abuse (Spoth et al., 2008). Family interventions, that are delivered in early adolescence, that support the development of parenting skills have been reported to be an effective method in reducing risk behaviours and preventing behavioural difficulties in adolescence (Connell et al., 2007). Group family interventions that support parenting skills and academic achievement have been found to reduce propensity to youth substance use and behavioural difficulties (Dishion & Andrews, 1995).

Substance abuse can be defined as the regular use of illicit drugs which can be harmful (Cambridge Dictionary, n.d.) and is often synonymously used with terms such as substance misuse, drug abuse and drug misuse.

Early onset of substance use has been associated with short- and long-term implications, such as reduced educational attainment, and mental health problems (Segrott et al., 2022). Familial risk and protective factors may also impact young people's predisposition to engage with substances, for example, family relationships may act as a protectant to a young person taking substance at an early age (Garmiene et al., 2006), whereas a parent who uses substances may increase the risk of a young person taking substances at a young age (Foxcroft & Lowe, 2009). Whilst many substance prevention programmes have been developed, there is a lack of evaluation to understand the efficacy of these (Allen et al., 2007).

The UK Government (1998) highlighted the importance of parental involvement and collaborative work to support and prevent Social, Emotional and Mental Health (SEMH) difficulties for children and young people (Allen et al., 2007). An intervention with a plethora of cross-cultural evidence is the Strengthening Families Programme 10-14 (SFP 10-14), which has researched into the impact of family intervention in supporting SEMH difficulties (Segrott et al., 2022).

Strengthening Families Programme 10-14

The SFP 10-14 was developed by Dr Kumpfer in 1992 following research in rural Iowa in the USA (Coombes et al., 2009). This led to the creation of a 7-session universal programme for low risk Iowa families, called the SFP 10-14 (Segrott et al, 2022). It is designed to be delivered to support children pre to early puberty age (Semeniuk et al., 2010). The aim of the SFP 10-14 is to reduce risk factors which may result in social, emotional and mental health difficulties (SEMH), including substance misuse or abuse (Riesch et al., 2012). The SFP 10-14 seeks to support the development of parent-child interactions and relationships (Semeniuk et al., 2010). The SFP 10-14 has been recognised internationally for having high levels of scientific evidence assessing its efficacy (Lindsay & Strand, 2013), and has also been found to be effective as a long-term primary prevention intervention for alcohol and drug misuse in the USA (Coombes et al., 2009).

Many countries have adapted the intervention to make it more effective and appropriate for particular cultures and subgroups. Countries have included Poland, Brazil, Australia, and the United Kingdom (E.g. Foxcroft et al., 2017 & Bröning et al., 2017).

Strengthening Families Programme – 10-14 UK

The Strengthening Families Programme 10-14 UK (SFP 10-14 UK) was adapted from the SFP 10-14 to account for social and cultural differences between the United States and the United Kingdom. This adapted version was first introduced by Coombes et al. (2009), where parents reported changes in communication, emotional wellbeing, drugs and alcohol use, and prosocial behaviour.

As the SFP 10-14 UK intervention is still in its infancy in the UK, much of the research has assessed its applicability in the UK with similar aims and focuses as other countries, being substance use and misuse. As the programme has developed in the UK, this has expanded to not only include substance abuse and misuse, but additional SEMH difficulties.

The SFP 10-14 UK consists of seven weekly two hour sessions. This is followed by four optional booster sessions between 6-12 months following the conclusion of the initial intervention (Lindsay et al., 2012). Parents and carers have separate sessions from their young people for the first hour, and then engage in family activities with other families for the second hour. Group sizes are typically between 8-13 families, with the optimal amount of individuals ranging between 20 to 30. There are typically 3 trained facilitators when delivering the SFP 10-14 UK, which includes one leader to facilitate the parent and carer sessions, and two to facilitate the children and young people's sessions (Lindsay et al., 2010). Each session identifies and seeks to support risk factors, and attempts to enhance protective factors by supporting the development of parenting skills and teaching coping skills to children and young people, with the aim of reducing Social, Emotional and Mental Health (SEMH)

difficulties in children and young people. Learning typically takes place through the use of DVDs, taking part in discussions, and activities (Lindsay et al., 2012).

Psychology underpinning SFP 10-14 UK

The SFP 10-14 UK is based on the Bio-psychosocial Vulnerability Model (Early Intervention Foundation, 2018). This model highlights that biological, psychological and social risk factors can interact, and where there are limited protective factors for the child or young person, such as family communication and management, this can create heightened risk of difficulties, such as substance use. Wangensteen and Hystad (2022) highlight that all factors can contribute to substance misuse and abuse, thus consideration into all of these must be considered when creating prevention and treatment interventions. Children and young people also interact with other social, economic and community environments which may influence behaviours, such as substance use (Semeniuk et al., 2010). Wangensteen and Hystad (2022) highlight that the frequency of substance use when coping with these varying factors, can lead to addiction, or abuse. The impact of such, can lead to mental health difficulties, such as anxiety and depression (Noordsy et al., 2013), and risky behaviours due to impaired executive functioning (Young, 2013), as examples. Due to the complexities of interacting biopsychosocial factors, some people will need support from professionals (Wangensteen & Hystad, 2022). The SFP 10-14 UK can provide intervention support for those who require professional support to reduce their substance use. This will consider, the family environment, and how this may impact on parts of the child's biopsychosocial vulnerabilities.

The SFP 10-14 UK is also based on the Theory of Family Systems (Pinheiro-Carozzo et al., 2021). The Theory of Family Systems (Kerr & Bowen, 1988),

considers human behaviour as a complex system, with members of a family who interconnect and interact with each other to influence each other's behaviours. As parent(s)/carer(s) have separate and joint sessions with their young person, the SFP 10-14 UK allows for exploration how family may interact and influence SEMH or substance abuse difficulties in young people.

Th Social Learning Theory (Pinheiro-Carozzo et al., 2021) states that learning occurs through social interaction and observation, and imitation of modelled behaviours (Lyons & Berge, 2012). Families have the opportunity in this intervention to model behaviours from peers, or facilitators. SFP 10-14 UK can also consider whether there are learnt behaviours from parent(s)/carer(s) that have contributed to a child or young person's SEMH or substance abuse difficulties.

Rationale and relevance

There is currently limited research exploring the effectiveness of the SFP 10-14 UK intervention. Much of the research varies between exploring the effects of the intervention on substance misuse (as per initial aims of the original intervention), and SEMH difficulties. For this reason, substance and drug abuse and misuse will be a focus of this systematic literature review in addition to SEMH difficulties, to allow for full exploration into the effectiveness of the SFP 10-14 UK intervention in the UK.

Having a family intervention with such a rich cross-cultural evidence base provides a promising basis for applicability in the United Kingdom. Having knowledge of this intervention as well as its contents, can support in signposting to families who may be struggling with a range of familial dynamics, as this is currently a universal programme.

Educational Psychologists having knowledge on the content of the SFP 10-14 UK can support with co-delivering with other professionals (such as schools) to support early intervention work for vulnerable groups. Educational Psychologists must also remain aware of Adverse Childhood Experiences (ACEs), and how these can impact on child development. Rothman et al., (2008) for example, highlighted that ACEs can predict an earlier onset of drinking in children and young people. The SFP 10-14 UK seeks to consider ACEs, and support the enhancement of protective factors, thus attempting to support and reduce social, emotional and mental health (SEMH) difficulties and substance abuse difficulties.

Review question

How effective is the Strengthening Families Programme in supporting the reduction of Social, Emotional and Mental Health (SEMH) difficulties, with a specific focus on substance misuse, for families with children aged between 10-14 years in the United Kingdom (UK)?

This systematic literature review is interested in assessing the impact of the SFP 10-14 UK intervention in reducing SEMH difficulties. However, much of the research to date is focusing on substance abuse or misuse, thus it is necessary to also have a specific focus into assessing the effectiveness of the SFP 10-14 UK intervention in supporting the reduction of substance abuse and misuse.

Critical Review of the Evidence Base

Between January and February 2023, a systematic literature search was conducted on three Psychology databases; Web of Science, PsycINFO and ERIC (EBSCO). Table 1 evidences the searches conducted in the respective databases. All searches were conducted with the aim of finding research for the Strengthening Families

Programme 10-14 UK (SFP 10-14 UK), to assess the effectiveness of this intervention. Although this systematic literature review is exploring Social, Emotional and Mental Health (SEMH) needs more generally, the historical and current research that has taken place with the SFP 10-14 UK has resulted in many of the searches looking at substance abuse. Substance abuse is also synonymous with terms such as drug misuse, substance misuse, and drug abuse, thus these terms were additionally used during the systematic literature review search.

Table 1: Systematic literature review search terms in Psychology databases

Database	Search terms used	Total results
Web of Science	Strengthening famil* AND families or famil* or parent* or parents AND drug misuse or drug abuse or substance abuse or substance misuse	45
PsycINFO	Strengthening families programme AND parent* or parents* AND drug abuse or drug misuse or substance abuse or substance misuse	54
ERIC (EBSCO)	strengthening famil* or strengthening families program* or strengthening families programme* or SFP AND parent* AND drug abuse* or drug misu* or substance abus* or substance misus*	42

The three databases produced a total of 141 studies for screening. Inclusion and exclusion criteria (Appendix A) were adhered to ensure the final studies chosen for review remained relevant to assessing the effectiveness of the SFP 10-14 (UK). The first level of screening involved removing duplicate studies, given that three separate databases were used in the search. 10 studies were removed as a result of this. Following this, the titles of the remaining studies were screened for relevance to the research question; this excluded 44 studies. 58 studies were removed at abstract screening stage, and an additional 26 were removed at content screening stage (Appendix B). Through citation searching, two studies were found and included in the review (Figure 1). Table 2 lists the studies included in the review.

Figure 1: Systematic literature review screening process

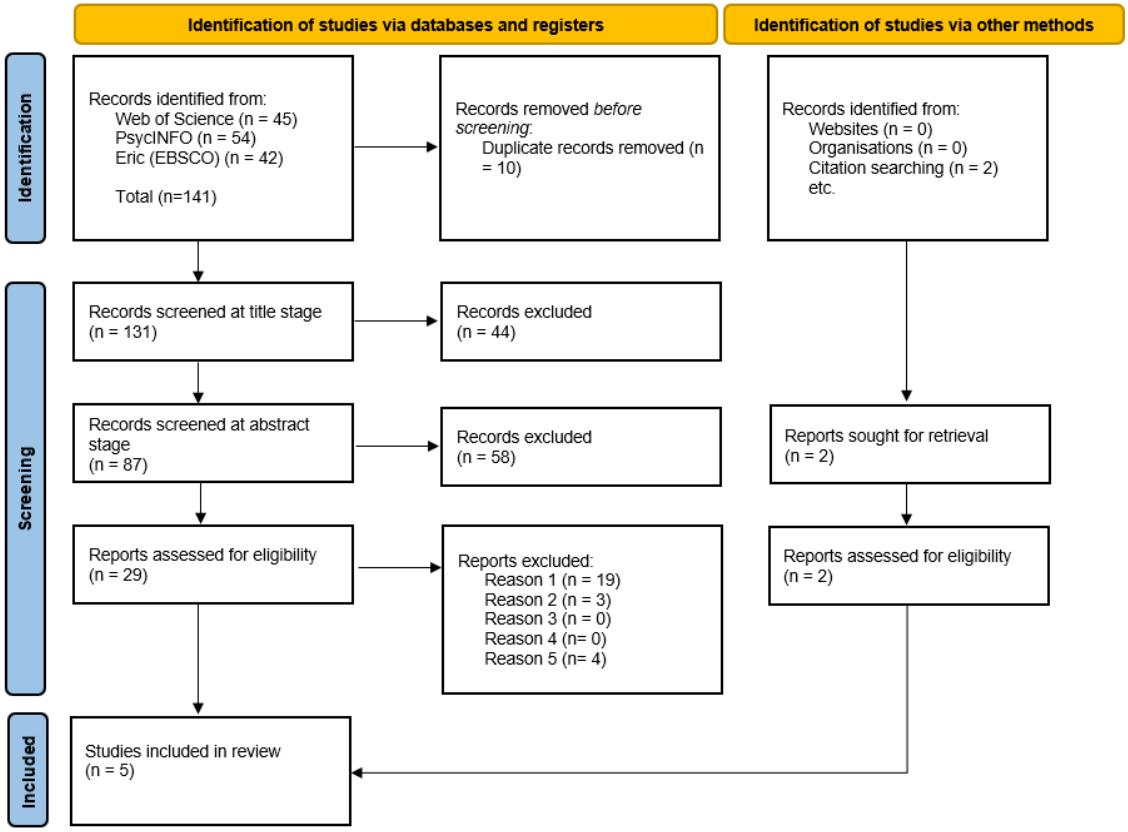

Table 2: Summary of Studies Included in Systematic Literature Review

Segrott, J., Gillespie, D., Lau, M., Holliday, J., Murphy, S., Foxcroft, D., Hood, K., Scourfield, J., Phillips, C., Roberts, Z., Hurlow, C., Moore, L., & Rothwell, H. (2022). Effectiveness of the Strengthening Families Programme in the UK at preventing substance misuse in 10–14 year-olds: A pragmatic randomised controlled trial. *BMJ Open*, *12*(2). https://doi.org/10.1136/bmjopen-2021-049647

Coombes, L., Allen, D. M., & Foxcroft, D. (2012). An exploratory pilot study of the Strengthening Families Programme 10–14 (UK). *Drugs: Education, Prevention and Policy*, *19*(5), 387–396. https://doi.org/10.3109/09687637.2012.658889

Coombes, L., Allen, D., Marsh, M., & Foxcroft, D. (2009). The Strengthening Families Programme (SFP) 10-14 and Substance Misuse in Barnsley: The Perspectives of Facilitators and Families. *Child Abuse Review*, *18*, 41–59. https://doi.org/10.1002/car.1055

Lindsay, G., & Strand, S. (2013). Evaluation of the national roll-out of parenting programmes across England: The parenting early intervention programme (PEIP). *BMC Public Health*, *13*(1). http://dx.doi.org.libproxy.ucl.ac.uk/10.1186/1471-2458-13-972

Coombes, L., Allen, D., & McCall, D. (2012). The Strengthening Families Programme 10-14 (UK): Engagement and academic success at school. *Community Practitioner*, *85*(3), 30–33.

Table 3 shows a map of the 5 studies that have been identified following the systematic literature search. This table outlines areas such as study design, method, outcome and follow up times. These studies explored how the SFP 10-14 UK supported the reduction of SEMH needs, many of which had a primary focus on substance misuse.

Table 3: Mapping Table of studies

Author and Year of study	Participant information	Study design	Study aim(s)	Methods	Outcome(s)	Follow up
Segrott et al. (2022)	715 families (919 parents/carers, 931 young people): 361 families in intervention group (461 adults, 477 children) and 354 families in control group (457 adults, 454 children)	Between group, pragmatic cluster randomised controlled effectiveness trial (RCT)	Reviewing the effectiveness of the SFP 10-14 UK programme in preventing substance misuse in 10-14 year olds	Seven weekly studies	There was no evidence of the SFP 10-14 UK reducing alcohol consumption or any other substance use.	Primary outcomes and secondary outcomes were collected from children at 2-year follow up
Coombes, Allen and	58 families: Intervention group - 26	Quasi-experimental, mixed	Reviewing the differences	Intervention group	The children self-report and parent report highlighted a reduction in aggressive	7 week posttest and 3

Foxcroft (2012)	parents/carers and 34 young people, Control group: 27 parents/carers and 35 young people	methods, between groups	between young people's substance use, aggressive behaviours, school absence, parenting behaviour and measures of family life	Enrolled in project and pre-test Participated in SFP Completed 7 week posttest Completed 3 month posttest Focus group Control group Enrolled in project and pre-test Mailed reading materials Completed 7 week posttest Completed 3 month posttest	behaviours. Parents/carers reported that they listened more to this child which reportedly reduced substance use.	month posttest completed with both intervention and control group
Coombes et al. (2009)	58 families	Quasi-experimental mixed		This study looked at 70 families who	Parents'/caregivers' scores for the PCSQ were highly significantly lower at the	No follow up period

		method design		completed the SFP 10-14 UK in the Barnsley area between 2002-2005. 83% of these 70 families (58 families) completed demographic characteristics from three self report questionnaires (PCSQ, YPSQ and SDQ)	end of the SFP 10-14 programmes than at the beginning ($p < 0.001$ for all scales). The young people's communication scores, emotional management scores and drugs/alcohol use scores were significantly lower at the end of the SFP 10-14 programmes than at the beginning as recorded on the YPSQ	
Lindsay and Strand (2013)	969 parents	Quantitative quasi - experiemntal (non randomised) : Between groups	To understand the effectiveness of SFP 10-14 UK on parenting and child behaviour	5 different intervention groups and people signed up to different parenting groups and they were compared to each other as	SFP 10-14 UK shown to be an effective programme with seeing improvements in parenting and child behaviour; however, less effective for parent wellbeing in comparison to another parenting programme (Triple P)	One year follow up

				well as evaluated in their own right		
Coombes, Allen and McCall (2012)	1 parent, 1 child	Case study	To understand the effectiveness of the SFP 10-14 UK on a child's academic success and reduction of SEMH difficulties	Seven week SFP 10-14 UK programme, with child and parent	The programme allowed for understanding of each other's perspectives. Family began to have fun and child's behaviours changed; he was formerly angry and hostile, and was using cannabis (no outcome noted on whether this reduced) Improved relationship with family, and better attendance at school, in addition to an improvement with school work.	No follow up period

Critical review of Studies

The five included studies were critically appraised using Gough's (2007) Weight of Evidence (WoE) framework. The WoE framework allowed the author to appraise the studies methodological quality (WoE A), appropriateness of research designs (WoE B) and relevance to the research question (WoE C). The WoE D is calculated from the average scores of the ratings of WoE A, B and C.

Weight of Evidence A (WoE A)

The Weight of Evidence A (WoE A) relates to the assessment of methodological quality of the studies. An adapted version of Kratochwill's APA Task Force Coding Protocol (2003) was utilised. This is the UCL Educational Psychology Systematic Literature Review coding protocol, **(**Appendix C), and this was used in the critical appraisal process for four studies (Appendix D).

Coombes, Allen and McCall's (2012) study is a qualitative case study. For this study, an adapted version of Dixon-Woods et al.'s, (2004) protocol was used, which was created by Garside (2014) (Appendix E). This coding protocol is useful for qualitative studies, and was seen as most appropriate to appraise for WoE A in relation to Coombes, Allen and McCall's (2012) case study. Garside's (2014) checklist was useful in appraising aspects in the qualitative study such as clarity of the research questions and appropriateness to qualitative design. The checklist also allowed appraisal of understanding context, sampling, data collection and analysis. Much of these appraisal elements are likened to the adapted version of Kratochwill's (2003) coding protocol, however Garside's (2014) checklist allows for exploration specifically around qualitative studies. All scores for WoE A are in Table 4.

Table 4: WoE A rating scores

Study	WoE A
Segrott et al. (2002)	2.56 (High)
Coombes, Allen and Foxcroft (2012)	1.8 (Medium)
Coombes et al. (2009)	2 (Medium)
Lindsay and Strand (2013)	2.3 (Medium)
Coombes, Allen and McCall (2012)	2 (Medium)

Weight of Evidence B (WoE B)

The Weight of Evidence B (WoE B) relates to assessing the appropriateness of the research designs in relation to the review question. Petticrew and Roberts' (2003) hierarchy of evidence was adhered to. Generalisable studies have been rated as being the most effective study design to assess the effectiveness of interventions. Following this hierarchy, systematic reviews, and Randomised Controlled trials will be awarded with a score of 3. Experimental designs, including quasi-experimental designs and single case experimental designs (SCED), will be awarded with a score of 2. Qualitative research including case studies are stated to have the lowest internal validity, and produce a lower quality of evidence, thus will be awarded a score of 1 (Appendix F). Scores are highlighted in Table 5.

Table 5: WoE B rating scores

Study	Study Design	WoE B
Segrott et al. (2002)	Randomised Control Trial (RCT)	3 (High)
Coombes, Allen and Foxcroft (2012)	Quasi-experimental	2 (Medium)

Coombes et al. (2009)	Non-experimental	1 (Low)
Lindsay and Strand (2013)	Quasi-experimental	2 (Medium)
Coombes, Allen and McCall (2012)	Qualitative – Case study	1 (Low)

NB: Low = 0 to 1.4, Medium = 1.5 to 2.4, High = 2.5 to 3

Weight of Evidence C (WoE C)

The author of this systematic literature review formulated specific judgement about the relevance of the focus of evidence to the review question; reviewing the effectiveness of the SFP 10-14 UK in supporting the reduction of Social, Emotional and Mental Health (SEMH), with a particular focus on substance misuse, for children aged between 10-14 years. The age range, the country, design and evidence gathering method were all considered as part of the criteria (Appendix G). The WoE C rating scores can be found in Table 6.

Table 6: WoE C rating scores

	Segrott et al. (2022)	Coombes, Allen and Foxcroft (2012)	Coombes, et al. (2009)	Lindsay and Strand (2013)	Coombes, Allen and McCall (2012)
Type of participants attended	3	3	3	3	3
Age of target children intended for intervention	3	3	3	2	2
Country	3	3	3	3	3
Data collection/use of measures	3	2	3	3	1
Total	12	11	12	11	9

Total Average	3 (High)	2.75 (High)	3 (High)	2.75 (High)	2.25 (Medium)

NB: Low = 0 to 1.4, Medium = 1.5 to 2.4, High = 2.5 to 3

Weight of Evidence D (WoE D)

The Weight of Evidence D (WoE D) is an averaged score to determine the overall methodological quality of each study. A summary of WoE A, B, C & D for each study is below (Table 7):

Table 7: All WoE rating scores for each study, including WoE D (total average) scores

Study	WoE A	WoE B	WoE C	WoE D (total average)
Segrott et al. (2022)	2.56 (High)	3 (High)	3 (High)	2.9 (High)
Coombes, Allen and Foxcroft (2012)	1.8 (Medium)	2 (Medium)	2.75 (High)	2.2 (Medium)
Coombes et al. (2009)	2 (Medium)	2.25 (Medium)	3 (High)	2.41 (High)
Lindsay and Strand (2013)	2.3 (Medium)	2 (Medium)	2.75 (High)	2.35 (Medium)
Coombes, Allen and McCall (2012)	2 (Medium)	1 (Low)	2.25 (Medium)	1.75 (Medium)

NB: Low = 0 to 1.4, Medium = 1.5 to 2.4, High = 2.5 to 3

Participants

The review consisted of five studies, which were all conducted in the United Kingdom. These studies were all published between 2009 and 2022. All studies had parents/carers and or children and young people, constituting a member of family in line with the aims of the programme. However, the split between the number of parents/carers and children and young people, was not always clear. For example, Coombes et al. (2009) state the number of families that took part in the study, but not the specific number of parents/carers and young people. In comparison, studies (e.g. Segrott et al., 2022) report the number of families, and further dissected this into parent/carer and young people in both the intervention and control group. For this reason, it is not possible to report the total numbers who took part.

The number of participants taking part in each study varied. Coombes, Allen and McCall (2012) conducted a case study on one family, thus there was one parent and one child. Segrott et al., (2022) and Lindsay and Strand (2013) had over 900 participants in their respective studies. Coombes, Allen and Foxcroft (2012) found challenge in being able to recruit participants due to hesitancy of the possibility of not receiving the intervention, and being put in the control group.

Research Design

Out of the five studies, two of the studies were non-randomised, quasi experimental studies. Coombes, Allen and Foxcroft's (2012) study intended to be a Randomised Controlled Trial, however, families expressed reluctance when told they would be randomly allocated, as many of the families were in need, and felt that they would benefit from receiving the intervention, thus did not want to be in the 'no intervention' control group. Segrott et al., (2022) however, were able to conduct a Randomised

Controlled Trial, which is why Segrott et al.'s (2022) study achieved a higher WoE B score than Coombes, Allen and Foxcroft's (2012).

Whilst two studies relied on exclusively quantitative (Lindsay & Strand, 2013) or qualitative (Coombes, Allen & McCall, 2012) methods of analysis, three studies utilised a mixed method design to analyse effectiveness. Coombes et al. (2009) scored a medium rating for the WoE B. They utilised quantitative measures directly related to the SFP 10-14 UK (e.g. The SFP 10-14 Parent/Caregiver Survey Questionnaire (PCSQ)). However, the WoE B could have been rated higher if there were additional measures exploring substance misuse.

Due to challenges with recruitment Coombes, Allen and Foxcroft's (2012) study, researchers allocated families to intervention and control group. Researchers attempted to allocate based on socio-economic status, parent education, parent age, and other factors. Having two groups lead to a medium WoE B rating, however if true randomisation was achieved, this study could have been rated higher, in the same way that Segrott et al.'s (2022) study did. Non-randomised allocation can be susceptible to bias even if researchers try to do this as objectively as possible, thus, randomisation would have been the ideal design.

Intervention

As the intervention is a session-by-session structured intervention, it is assumed that each study delivered this in line with the guidelines. Adaptations to the intervention in other countries have been criticised for potentially undermining its delivery. The UK has gone through evaluations into the fidelity and found that adaptation has not jeopardised delivery. Coombes, Allen and Foxcroft's (2012) study highlight good intervention fidelity. Segrott et al. (2022) provided more detail about the good

implementation fidelity in their study; 96% of individual activities in the study protocol were either mostly or fully covered.

Intervention aims varied in the studies. Segrott et al., (2022), Coombes, Allen and Foxcroft (2012) and Coombes et al. (2009) had the primary goal of assessing the SFP 10-14 UKs effectiveness on substance use and abuse. Considering the aims of this systematic literature review focusing on the SFP 10-14 UK looking at the effectiveness of reducing substance misuse, these studies received a high WoE C rating. Lindsay and Strand (2013) looked at overall effectiveness, requiring parents to evaluate parental laxness, child's behaviour over three time points, and mental wellbeing. Lindsay and Strand's (2013) study was more general in nature, due to comparing the SFP 10-14 UK with other parent programmes with different aims. For this reason, it was rated medium relevance to the research aims of this systematic literature review. Coombes, Allen and McCall (2012) sought to assess the impact of the SFP 10-14 UK on academic success, but also considered and reviewed substance use for the child in the study. Due to having a focus on substance use, this study also received a medium WoE C rating.

All studies, apart from Coombes, Allen and McCall (2012) positioned the SFP 10-14 UK as a universal intervention. Coombes, Allen and McCall (2012) stated that the intervention was a targeted intervention, where pastoral team staff members selected students and families for engagement.

Measures

The measure provided to parents at 3 months post intervention in Coombes, Allen and Foxcroft (2012) utilised measures which were incorporated from validated measured uses in SFP 10-14 studies in the USA and from alcohol and substance

use measures used in the European School Survey Project on Alcohol and Drugs. Whilst these measures are evidence-based, it is known that the adaptation of the SFP 10-14 UK project needed adaptation to be suitable to the demographic of the UK. It would be ideal for the measure, particularly the one that has been validated in the USA, to be reviewed as a valid tool in the United Kingdom. In addition, it would also be beneficial for one measure to be used, as opposed to bits of different measures, to ensure that this measure has validity in its entirety. Coombes et al. (2009) note that the outcome measures used in their study lacked validity and reliability.

Many studies utilised a mixed methodology approach to gathering information, for example, focus groups, and quantitative measures such as the Strengths and Difficulties Questionnaire (SDQ).

Outcomes

Studies varied in their follow up times, which may cause difficulties with comparing outcomes. For example, Lindsay and Strand (2013) had a follow up period of one year, and found statistical effectiveness of the SFP 10-14 UK. However, Segrott et al. (2022) had a follow up period of two years, and did not find statistical effectiveness of the intervention. This is not a linear assumption that the length of time impacts on the effectiveness, but it is one to consider for future research. Coombes, Allen and Foxcroft (2012) had two time points for follow up; 7 weeks, and then 3 months. Coombes, Allen and McCall (2012) did not provide clarity on whether any follow up took place in their case study analysis.

Outcomes and effect sizes for three studies are summarised in Table 8. For the purpose of this review, Cohens *d* (1988) was applied to evaluate effect sizes. Where

studies did not report Cohen's d in their study, this was converted using Psychometrica (n.d.). When considering Cohen's d effect sizes, no effect = *d*= 0.00, a small effect would be *d*=0.2, a medium effect would be *d*=0.5, and a large effect would be considered *d*=0.8. Coombes, Allen and Foxcroft (2012) and Coombes, Allen and McCall (2013) reported no statistical data, as no quantitative information was gathered.

Whilst Coombes, Allen and Foxcroft (2012) reported no statistically significant effects between the intervention and alcohol use and behavioural difficulties, no statistics were reported. Therefore, effect size calculations were not carried out. Coombes, Allen and McCall (2012) also do not report statistical information, thus effect size cannot be conducted. This study reported an observed teacher and parent positive impact, but no statistical significance can be derived from this.

Lindsay and Strand's (2013) study found that the SFP 10-14 UK had a medium statistical effect on improving families mental-wellbeing. Segrott et al.'s (2022) found no statistical effect. Segrott et al. (2022) specifically researched substance abuse, where Lindsay and Strand (2013) was more generalised. Segrott et al.'s (2022) findings appear to contradict studies in the USA, which found the SFP 10-14 had long lasting effects on substance use in young people. However, as stated previously, studies in the UK cannot be directly compared to the USA due to differing societal and cultural norms.

Table 8: Review of studies, including effect sizes

Study	Sample	Outcome	Significance reported	Effect size (When converted to Cohens *d*	Descriptor of Cohens *d*	Overall Weighting (WoE D)
Segrott et al. (2022)	*Intervention group* Parents/Carers; N= 461, Children and young people; N= 477 *Control group* Parents/Carers; N= 457, Children and young people; N= 454	No between-group difference on young people's alcohol consumption or drunkenness	Adjusted Odds Ratio (AOR) for alcohol consumption = 1.11	0.0575	No statistical effect between groups	High

Coombes, Allen and Foxcroft (2012)	*Intervention group* Parents/Carers; N= 26, Children and young people; N= 34 *Control group* Parents/Carers; N=27, Children and young people; N=35	Both children and parents/carers reported a reduction in aggressive behaviours	Not reported	N/A	N/A	Medium
Coombes et al. (2009)	58 families; 116 individuals	Parents and young people reported improvements in emotional health and wellbeing between groups	Wilcoxon z: Parent SDQ total difficulties score= -2.538; Child/young person SDQ total difficulties score = -2.022	Parent: 1.642 Child/young person: 1.172	Large effect	High
Lindsay and Strand (2013)	969 parents	SFP 10-14 UK shown to be an effective programme with seeing improvements in parenting and child behaviour (pre and	Cohens *d*= 0.66	0.66	Medium effect	Medium

		post measures were compared to other parenting pre and post measures)				
Coombes, Allen and McCall (2012)	1 parent, 1 child	The programme allowed for understanding of each other's perspectives. Family began to have fun and child's behaviours changed; he was formerly angry and hostile, and was using cannabis (no outcome noted on whether this reduced) Improved relationship with family, and better attendance at school, in addition to an improvement with school work.	Not reported	N/A	N/A	Medium

Coombes, Allen and McCall's (2012) assessed the impact of the SFP 10-14 UK on academic attainment and engagement, however it is unclear how this was measured. Reports from teachers and parents were the markers that evidenced and highlighted effectiveness of the intervention, for example, through engagement in lessons. Segrott et al.'s (2022) study intended to gather academic data but ceased to do so. Coombes, Allen and McCall could have considered collecting academic data on the participant.

The families in Coombes et al.'s (2009) study identified four main areas where they thought that the SFP 10-14 UK programme was effective; parent and young people wellbeing, young people's behaviour, young people's substance use, and family functioning.

Conclusion and Recommendations

The Strengthening Families Programme 10-14 UK (SFP 10-14 UK) is still in its infancy stages of building a culturally appropriate evidence base. Findings, at present seem to be mixed and do not appear to corroborate the United States version of the SFP 10-14. Lindsay and Strand (2013) highlight the ability to deliver the SFP 10-14 UK in community settings, however findings are mixed across the five studies. Therefore, the first recommendation is:

(1) For the SFP 10-14 UK to continue to develop its evidence base in the United Kingdom.

Petticrew and Roberts' (2003) hierarchy of evidence states that Randomised Controlled Trials are the best way of assessing the effectiveness of an intervention,

as randomisation of participants removes bias, and can produce generalisable findings. However, as noted in Coombes, Allen and Foxcroft's (2012) study, Randomised Controlled Trials do not come without their practical and ethical implications, particularly when some studies assessed a sensitive topic (substance abuse) with many families not wanting to potentially be put in the control group, which did not receive the actual intervention. Consideration must go into ensuring care for families who require support. The author considered having a waitlist intervention group who would eventually receive the intervention, as opposed to a group that would receive no intervention at all. This may however, jeopardise the randomisation process.

The Theory of Family Systems (Kerr & Bowen, 1988), allowed the author to consider that other members outside of primary caregivers, may be interacting and impacting on a child's SEMH difficulties. According to Kerr and Bowen (1988), it may be useful to focus on the family as a whole. Therefore, the second recommendation is:

(2) To consider the expansion of the SFP 10-14 UK to include different and pertinent members of the family if appropriate

Studies have researched into the impact of family members on SEMH difficulties, for example, siblings (Lawson & Mace, 2009). Despite this, it was only in Coombes et al. (2009) where two young people, attended the programme with their sibling. In some cases, it may not be possible, or appropriate for a range of reasons, to include other members of the family in this intervention. However, where possible, having different members of the family present can increase further, family cohesion and communication. This is something that is actively encouraged in interventions such as Functional Family Therapy (Functional Family Therapy, n.d.).

Difficulties in being able to gather participants reflective of the nature and diversity of the United Kingdom, was highlighted as a limitation. Coombes, Allen and Foxcroft (2012) noted in their study, that this was due to the small sample size. Coombes et al. (2009) conducted the study in Barnsley; an area which at the time of publishing was recorded to be over 99% White British, and all three locations studied had over 90% of a White British population. Therefore, the third recommendation is as follows:

(3) For the SFP 10-14 UK to research a diverse range of families, considering socio-economic background, ethnicity, etc.

Lindsay and Strand (2013) show evidence of achieving diversity in demographics, however, as this study examined four different parenting programmes, it is not clear nor reported how the demographic data reflected the specific SFP 10-14 UK programme, particularly since participants were able to sign up and choose which intervention they attended. Taking lessons from Lindsay and Strand's (2013) study however, show that a method of achieving a diverse demographic base, can be through recruiting using national services such as Local Authorities. Coombes et al. (2009) reported a difference in attendance in families with more than one sibling, and saw this enhanced when a creche facility was provided. By considering the diversity and ensuring it reflects the true population as best as possible, this can also allow researchers to consider cultural and societal differences within subgroups in the United Kingdom, to further inform delivery and enhance effectiveness.

Lindsay and Strand's (2013) study had the benefit of being able to assess effectiveness of multiple parenting programmes. The SFP 10-14 UK is still in its infancy stages regarding research and development in the UK, whereas some parenting programmes have been established in the United Kingdom for a longer

period of time than the SFP 10-14 UK, such as the Incredible Years Programme and Triple P. The fourth recommendation is therefore:

(4) For the researchers of the SFP 10-14 UK to review parenting interventions with a strong research base in the United Kingdom, to develop consideration of additional practical, ethical and theoretical implications

The Early Intervention Foundation (Asmussen et al., 2017) detailed a number of parenting interventions which have an evidence base towards their effectiveness. Examples of these include the Incredible Years and Triple P programmes. Both programmes also showed a large effect sizes in Lindsay and Strand's (2013) study. The aim would not be to replicate these programmes, but review the evidence base and consider ways to learn lessons to enhance effectiveness.

(5) For the SFP 10-14 UK to be delivered by different professionals in the UK, including by Educational Psychologists. There is some ambiguity with defining substance abuse which highlight the impact of social differences and contextual differences based on factors such as age, culture (Bozzeli, 2008). The five studies do not provide a common definition or description of substance abuse. If Educational Psychologists delivered the SFP 10-14 UK, it would be useful to work towards a common understanding of substance abuse and how this would be defined within the context of the UK.

If Educational Psychologists deliver the SFP 10-14 UK with children at high risk due to their substance abuse, it is necessary for them to reflect on their professional

competence. It may therefore be useful to collaborate with another professionals, such as a CAMHS member of staff.

Educational Psychologists could also contribute to research whilst there are delivering the SFP 10-14 UK. It would be recommended that where possible, this should be a Randomised Controlled Trial, to enhance generalisability of findings.

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Appendices

Appendix A – Inclusion and Exclusion Criteria during literature review screening process

Criteria	Inclusion	Exclusion	Rationale
1. Intervention	Studies which examine the SFP 10-14 UK intervention Studies that examine the delivery of the SFP 10-14 UK intervention within the UK	'Strengthening Families Programme (Program)' 10-14 or Strengthening Families Program in another country(ies) or interventions which are not the SFP 10-14 UK	Examining the delivery of the SFP 10-14 UK being delivered in the UK, and its effectiveness for UK populations Studies conducted in other countries (outside of the UK) may have adaptations which mean they it is difficult to directly compare thus conclude overall effectiveness
2. Outcomes	Reviewing the effectiveness of SFP 10-14 UK for children and young people with Social, Emotional and Mental Health	Reviewing adaptations, systematic or operationalisation of the intervention	Reviewing operationalisation of the intervention may support delivery, but does not evidence effectiveness of the intervention on the chosen groups

		(SEMH) difficulties Reviewing the effectiveness of SFP 10-14 UK for children and young people with substance abuse/misuse problems		
3.	Population	Intervention including Parent and/or child or young people (families)	Intervention exclusively delivered to a population other than to families	This review is focusing on the effectiveness of a parent or family completing this intervention and the subsequent impact that this has on the family dynamics as a whole, including for a child and/or young person.
4.	Language	Article being written in the English language	Article not being written in the English language	Transcribing/translation implications
5.	Resource access	Resource available for full review	Resource unavailable for full review	This may be due to limited access of the resource via the journal databases, or physical access

An exploratory search was conducted due to the limited research. For this reason, time span of research was not used as an inclusion or exclusion criteria.

Appendix B – Excluded studies during the content screening phase of the literature review

Study (Full reference)	Reason for exclusion (See Appendix A for inclusion and exclusion criteria list)

Akin, B. A., Johnson-Motoyama, M., Davis, S., Paceley, M., & Brook, J. (2018). Parent perspectives of engagement in the strengthening families program: An evidence-based intervention for families in child welfare and affected by parental substance use. *Child & Family Social Work*, *23*(4), 735–742. https://doi.org/10.1111/cfs.12470	1
Allen, D., Coombes, L., & Foxcroft, D. (2007). Cultural accommodation of the Strengthening Families Programme 10–14: UK Phase I study. *Health Education Research*, *22*(4), 547–560. https://doi-org.libproxy.ucl.ac.uk/10.1093/her/cyl122	2
Annette E Aalborg, Brenda A Miller, Gail Husson, Hilary F Byrnes, Karl E Bauman, & Richard L Spoth. (2012). Implementation of adolescent family-based substance use prevention programmes in health care settings: Comparisons across conditions and programmes. *Health Education Journal*,	1

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Semeniuk, Y., Brown, R. L., Riesch, S. K., Zywicki, M., Hopper, J., & Henriques, J. B. (2010). The Strengthening Families Program 10–14: Influence on parent and youth problem-solving skill. *Journal of Psychiatric and Mental Health Nursing*, *17*(5), 392–402. https://doi-org.libproxy.ucl.ac.uk/10.1111/j.1365-2850.2009.01534.x

Appendix C – WoE A coding protocol descriptions

The Kratochwill (2003) coding protocol was adapted for the purpose of this systematic literature review. The below highlights the elements of the coding protocol that were used, as well as the scoring/rating system used to determine the WoE A of each study

Title	Rating system	Rationale

	High/Strong (3)	Medium/Promising (2)	Low/Weak (1)	
General characteristics	Completely randomised design High or very high confidence of judgment of how participants were assigned Established programmes	Randomised between or within participants Moderate confidence of judgment of how participants were assigned Early stage programmes	Non-randomised design Low, very low confidence (or cannot be determined) of judgement of how participant were assigned Unknown stage of programmes	Randomised designs produce the least bias Established programmes have established evidence base
Measurement	Use of outcome measures which produce reliable scores for the majority of the primary outcomes At least two assessment measures used Multi source information Validity of measures reported	Reliable outcome measures used, but not using a multi-method approach and/or not multi-sourced. Measures also validated for general population	No reliable outcome measures used, no multi method or multi source approach used, and measures not valid. Unknown or unable to code reliability and validty of measures, and not multi-method or multi source	Reliable and valid measures allows for replication of study if desired.
Comparison Group	Comparison group used, between group or within group comparisons (alternative intervention, typical intervention,	Waitlist/delayed intervention comparison group Moderate confidence on type of comparison group	Minimal contact comparison group, or unable to identify type of comparison Low or very low confidence	Between group where two groups receive some form of support at the same time, allows for comparison of effectiveness Low attrition rates ensure that pre and post

	or attention or intervention placebo) High confidence on type of comparison group Random assignment of comparison groups Low attrition rates of participants at post measure or follow up	Statistical matching of comparison groups	on type of comparison group	measures can be gathered
Appropriate statistical analysis	A range of different statistical analysis methods (including appropriate use of analysis, sufficiently large number)	A range of different statistical analysis methods, without the use of appropriate units of analysis or large numbers	No statistical analysis used	A range of different statistical analysis allows for appropriate conclusions to be made on the effectiveness of the study

Appendix D – Kratochwill (2003) Coding protocol (completed) for Segrott et al. (2022): Weight of Evidence A (WoE A)

Full Study Reference in proper format:

Segrott, J., Gillespie, D., Lau, M., Holliday, J., Murphy, S., Foxcroft, D., Hood, K., Scourfield, J., Phillips, C., Roberts, Z., Hurlow, C., Moore, L., & Rothwell, H. (2022). Effectiveness of the Strengthening Families Programme in the UK at preventing substance misuse in 10–14 year-olds: A pragmatic randomised controlled trial. *BMJ Open*, *12*(2). https://doi.org/10.1136/bmjopen-2021-049647

Intervention Name (description of study): Strengthening Families Programme 10-14 UK (SFP 10-14 UK)

Study ID Number: _____

☐ Type of Publication:
☐ Book/Monograph
☒ **Journal Article**
☐ Book Chapter
☐ Other (specify):

1. General Characteristics

A. General Design Characteristics

A1. Random assignment designs (if random assignment design, select one of the following)

☐ Completely randomized design
☒ **Randomized block design (between participants, e.g., matched classrooms)**
☐ Randomized block design (within participants)
☐ Randomized hierarchical design (nested treatments

A2. Nonrandomized designs (if non-random assignment design, select one of the following)

☐ Nonrandomized design
☐ Nonrandomized block design (between participants)
☐ Nonrandomized block design (within participants)
☐ Nonrandomized hierarchical design
☐ Optional coding for Quasi-experimental designs

A3. Overall confidence of judgment on how participants were assigned (select one of the following)

☐ Very low (little basis)
☐ Low (guess)
☐ Moderate (weak inference)
☐ High (strong inference)
☒ **Very high (explicitly stated)**
☐ N/A
☐ Unknown/unable to code

B. Participants

Total size of sample (start of study): 715 Families; 918 adults, 931 children

Intervention group sample size: 361 Families; 461 adults, 477 children

Control group sample size: 354 Families; 457 adults, 454 children

C. Type of Program

☒ **Universal prevention program**
☐ Selective prevention program
☐ Targeted prevention program
☐ Intervention/Treatment
☐ Unknown

D. Stage of Program

☐ Model/demonstration programs
☒ **Early stage programs**
☐ Established/institutionalized programs
☐ Unknown

E. Concurrent or Historical Intervention Exposure

☒ **Current exposure**
☐ Prior exposure
☐ Unknown

2. Key Features for Coding Studies and Rating Level of Evidence/Support

(Rating Scale: 3= Strong Evidence, 2=Promising Evidence, 1=Weak Evidence, 0=No Evidence)

A. Measurement (Estimating the quality of the measures used to establish effects)

A1 The use of the outcome measures produce reliable scores for the majority of the primary outcomes

☒ **Yes**
☐ No
☐ Unknown/unable to code

A2 Multi-method (at least two assessment methods used)
☒ **Yes**
☐ No
☐ N/A
☐ Unknown/unable to code

A3 Multi-source (at least two sources used self-reports, teachers etc.)
☒ **Yes**
☐ No
☐ N/A
☐ Unknown/unable to code

A4 Validity of measures reported (well-known or standardized or norm-referenced are considered good, consider any cultural considerations)

☒ **Yes validated with specific target group**
☐ In part, validated for general population only
☐ No
☐ Unknown/unable to code

Overall Rating for measurement 3

3= Strong Evidence 2=Promising Evidence 1=Weak Evidence 0=No Evidence

B. Comparison Group

B1 Type of Comparison Group (Select one of the following)

☐ Typical intervention (typical intervention for that setting, without additions that make up the intervention being evaluated)
☐ Attention placebo
☐ Intervention element placebo
☒ **Alternative intervention**
☐ Pharmacotherapy
☐ No intervention
☐ Wait list/delayed intervention
☐ Minimal contact
☐ Unable to identify type of comparison

B2 Overall confidence of judgment on type of comparison group

☐ Very low (little basis)
☐ Low (guess)
☐ Moderate (weak inference)
☐ High (strong inference)
☒ **Very high (explicitly stated)**
☐ Unable to identify comparison group

B3 Counterbalancing of change agent (participants who receive intervention from a single therapist/teacher etc were counter-balanced across intervention)

☐ By change agent
☒ **Statistical (analyse includes a test for intervention)**
☐ Other
☐ Not reported/None

B4 Group equivalence established (select one of the following)

☒ **Random assignment**
☐ Posthoc matched set
☐ Statistical matching
☐ Post hoc test for group equivalence

B5 Equivalent mortality

☐ Low attrition (less than 20 % for post)
☒ **Low attrition (less than 30% for follow-up)**
☐ Intent to intervene analysis carried out?
Findings_____

Overall rating for Comparison group __3__

3= Strong Evidence 2=Promising Evidence 1=Weak Evidence 0=No Evidence

C. Appropriate Statistical Analysis

Analysis 1____Strengths and Difficulties Questionnaire (SDQ)_____

☒ **Appropriate unit of analysis**
☐ Familywise/experimenter wise error rate controlled when applicable
☒ **Sufficiently large N**

Analysis 2__Analysis of alcohol use and drunkenness for young people
_____

☒ **Appropriate unit of analysis**
☐ Familywise/experimenter wise error rate controlled when applicable
☒ **Sufficiently large N**

Overall rating for Statistical Analysis _2_

3= Strong Evidence 2=Promising Evidence 1=Weak Evidence 0=No Evidence

Summary of Evidence

Indicator	Overall evidence rating 0-3	Description of evidence Strong Promising Weak No/limited evidence Or Descriptive ratings
General Characteristics		
Design	3	Strong
Type of programme	3	Strong
Stage of programme	2	Promising
Concurrent/ historical intervention exposure	3	Concurrent
Key features		
Measurement	2.5	Promisingn
Comparison group	3	Strong
Appropriate Statistical Analysis	2	Promising

Appendix E – Coding appraisal checklist created by Garside (2014), adapted from Dixon-Woods et al. (2004), including completed checklist: Weight of Evidence A (WoE A)

Descriptor	**Criteria**
3 (High)	Score on the checklist is 'yes'
2 (Medium)	Score on the checklist is 'partially'
1 (Low)	Score on the checklist is 'no'

Checklist for the reporting of technical aspects of qualitative research conduct (Garside, 2014).

Study: Coombes, L., Allen, D., & McCall, D. (2012). The Strengthening Families Programme 10-14 (UK): Engagement and academic success at school. *Community Practitioner*, *85*(3), 30–33.		
	Yes/Partially/No	Comments
1) Is the research question(s) clear?	No	Research question can be inferred from the context

		of the introduction, but not explicitly stated
2) Is the research question(s) suited to qualitative enquiry?	Partially	Based on the inferred research question looking at the effect of the SFP 10-14 UK on academic engagement and attainment, it may have been useful to do a mixed method design, gathering statistical data on engagement and attainment to date, to provide clear outcomes as a result of the intervention
Are the following clearly described:		
3) Context	Yes	Context of SFP 10-14 UK described clearly and process of the intervention in the school specific context explained
4) Sampling	Yes	Context of SFP 10-14 UK described clearly and process of the intervention in the school specific context explained, including recruitment methods
5) Data collection	Partially	Does not explicitly state whether interviews took place, and what type of interview. However, observations appear to have been noted from the duration of the intervention and towards the end. Mentioned "Child *seemed* more calm…" suggesting no interview took place with the child to gather true views.
6) Analysis	Partially	Highlights ways that community practitioners can support academic attainment and engagement, however, little analysis of specific

case study and the implications of this for practice or delivery of this in the school context. Also little discussion into the difference of delivery in a school setting in comparison to other comparisons or the implications of this.

Appendix F – Framework for Weight of Evidence B (WoE B) assessment

Descriptor	**Criteria**
3 (High)	Systematic literature reviews Randomised Control Trials (RCT)
2 (Medium)	Experimental designs
1 (Low)	Qualitative research, case studies, surveys, non-experimental studies

Appendix G – Framework for Weight of Evidence C (WoE C) assessment

Criteria	**WoE C Rating 3**	**WoE C Rating 2**	**WoE C Rating 1**	**Rationale**
Type of participants attended	Families; both a caregiver and child and/or young person	Either caregiver or child and/or young person	Other; another group attended, or no attendance (e.g. assessment of structure of intervention)	The SFP 10-14 UK is a family intervention, thus to enhance effectiveness, it is more credible for caregivers (parents and/or carers) and children and/or young people) to attend
Age of target children intended for intervention	10-14	Any study which states an age range which spans across the 10-14 years age range (e.g. 8-16 years, 9-14 years, etc).	Any study which does not explicitly state an age range within the 10-14 group.	The SFP 10-14 UK is specifically tailored to this age range as it is early puberty, pre adolescence age.
Country	Any country within the United Kingdom	Studies which refer to one or a number of countries in the United Kingdom, as well as countries outside of the United Kingdom	Studies which do not reference any country within the United Kingdom	The SFP 10-14 UK has been adapted to be suitable for use in the United Kingdom, thus studies outside of the United Kingdom may not be

				reliably linked to
Data collection/use of measures	Measures collected that are directly linked to behaviours of concern or evidenced to link to family outcomes.	Measures collected that are evidence based, but not linked directly to measuring family outcomes	No measures conducted/unclear methods of data collection	The review question is looking at the effectiveness of the intervention, thus measures that directly link to the specific outcome would be most valid and reliable