Co-production of two whole-school sexual health interventions for English secondary schools: Positive Choices and Project Respect

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Abstract

Background: Improving adolescent sexual health remains a priority in the UK. Whole-school interventions represent promising approaches, but they have not been rigorously tested in the UK context. Involving potential recipients, implementers and other key stakeholders in the development of such complex interventions prior to formal piloting and evaluation is widely recommended. We report on co-production with expert providers, students, school staff and other practice and policy professionals of two new whole-school sexual heath interventions for implementation in English secondary schools.

Methods: Qualitative inquiry involving seventy-five students aged 13–15 and 22 school staff. A group of young people trained to advise on public health research were consulted on three occasions. Twenty-three practitioners and policy makers shared their views at a stakeholder event. Detailed written summaries of meetings and events were prepared and key themes identified to inform the design of each intervention.

Results: Data confirmed acceptability of addressing unintended teenage pregnancy, sexual health and dating and relationships violence via multi-component whole-school interventions and curriculum delivery by teachers (providing appropriate teacher selection). The need to ensure content reflected the reality of young people's lives; enable flexibility for the timetabling of lessons and mode of parent communication; provide prescriptive teaching materials for time pressed teachers; and develop robust school engagement strategies were also highlighted and informed intervention refinements. Our research further points to some of the challenges involved in accessing and incorporating stakeholder input where it may conflict with best practice or what is practicable within the constraints of a trial.

Conclusions: Multi-component, whole-school approaches to addressing sexual health may be feasible for implementation in English secondary schools. They must be adaptable to individual school settings; limit burden on staff; and accurately reflect the realities of young people's lives. When co-producing, potential limitations in relation to the representativeness of participants, the 'depth' of engagement necessary as well as the burden on participants and how they will be recompensed must be carefully considered. Well-defined, transparent procedures for deciding how stakeholder input will be incorporated from the outset are also essential. Formal feasibility testing of both co-produced interventions in English secondary schools via cluster RCT regarding feasibility is warranted.

Trial registration: Project Respect: ISRCTN12524938. Positive Choices: ISRCTN65324176

Key Messages Regarding Feasibility

1) Systematic reviews suggest that whole-school interventions are promising approaches to addressing adolescent sexual health, but feasibility of delivery in the UK has not been formally tested.

2) Our findings demonstrate that multi-component, whole school interventions to address unintended teenage pregnancy and dating and relationships violence (DRV) may be feasible for delivery in English

secondary schools providing they are adaptable to individual school settings; limit burden on staff; and accurately reflect the realities of young people's lives.

3) Findings from stakeholder consultation informed refinements to intervention design that are likely to improve feasibility of implementation in English secondary schools. Formal feasibility testing of both interventions (Positive Choices and Project Respect) via pilot cluster randomised trial is warranted.

Background

Despite significant recent declines, the teenage birth rate in the UK remains higher than in other comparable western European countries[1-3]. Teenagers are also the most likely group to experience unplanned pregnancy with around half of conceptions to under 18s in England and Wales ending in abortion, this increasing to over 60% among those under 16.[2] Around half of new STIs (sexually transmitted infection) diagnosed in England are to young people under the age of 24[4], while non-volitional sex (NVS) and dating and relationships violence (DRV) in the teenage years are widely, and likely also under, reported in the UK [5-7]. The costs of unplanned pregnancy, STIs and domestic violence to health and public services are significant [8, 9]. Improving sexual health among young people, therefore, remains a priority in England and the UK as a whole.

Interventions involving whole-school in addition to classroom elements are promising approaches to addressing adolescent sexual health over basic curriculum only programmes, which systematic reviews suggest often have small, limited long term and/or inconsistent impact on behaviour [10-15]. Whole-school actions might include, but are not limited to: changes to school policies to support promotion of sexual-health; student participation in planning and delivering activities to increase relevance and acceptability and promote connection to school (a protective factor for sexual risk taking [16, 17]); parent engagement; and increasing student access to contraceptive, sexual-health and other relevant support services. Recent reviews suggest that interventions involving whole school elements can have significant and sustained impacts on delaying sexual debut;[18] and increasing contraception use and reducing pregnancy rates [19]. Evidence also suggests that interventions involving whole-school actions can have long term impact on victimisation and perpetration of sexual and physical violence [20, 21]. Whole school approaches to addressing sexual health, however, have not been rigorously tested in the UK.

The most recent MRC guidance on the development and evaluation of complex interventions - that is interventions, like many whole school interventions, involving multiple interacting parts and/or inserted into complex adaptive settings - calls for greater investment and rigour in intervention development prior to wider implementation, although relatively little attention is paid to this phase in the guidance itself. [22-25] Alongside the MRC guidance a number of frameworks have emerged to support the development of complex interventions in order to maximise feasibility and potential for effectiveness in a given context prior to costly implementation and evaluation studies.[25-35] Most (including the MRC guidance) propose a phased, iterative approach involving: identification of similar effective interventions and/or mechanisms in the existing literature, developing intervention theory, and pilot-testing delivery models

and materials. The importance of stakeholder involvement across phases is emphasised, with potential beneficiaries and intervention providers viewed as having unique insights into how health problems are constructed and maintained, and the local context in which interventions will be delivered [36]. Stakeholders are thus recognised as having a valuable contribution to make as 'co-producers' of interventions by, for example, identifying appropriate and relevant intervention aims and content; contributing to the delineation of theories of change; highlighting facilitators and barriers to implementation and acceptability; and identifying potential unintended consequences and ways of addressing these [25, 30, 36, 37]. While co-production in its initial intended sense implies a level of collaboration and parity in power between researcher and co-producer, co-production in intervention design can describe a diverse set of activities ranging from stakeholders merely being informed or consulted about interventions, through to them having the authority to make decisions and shape direction and content of interventions [38, 39]. Despite increased interest in intervention development and co-production in intervention design, accounts of such processes remain relatively under-reported [40].

In this paper we describe our approach to the co-production of two whole-school sexual health interventions for implementation in English secondary schools: 'Positive Choices' aimed at preventing unintended teenage pregnancy and 'Project Respect' aimed at addressing DRV and sexual harassment in schools, which draws on the frameworks outlined above. We describe how consultation with school staff, students, and other youth, practitioner and policy stakeholders informed the development of these two interventions prior to formal piloting via cluster randomised control trial (RCT). We also reflect on some of the challenges and dilemmas encountered during the process and the extent to which we can claim to have involved stakeholders as 'co-producers' in our research. Our findings provide valuable insights for those planning the design and delivery of similar health interventions in secondary schools in England and for those considering similar co-production activities with students, school staff and other stakeholders.

Methods

Initial intervention design

Positive Choices and Project Respect were both designed as new, rather than replications of existing evidence-based interventions. Design began by defining primary and secondary outcomes, a theory of change and set of components for each intervention based on existing evidence.

Positive Choices aimed to reduce unintended teenage pregnancy (primary outcome). Secondary outcomes included delayed sexual debut, reduced numbers of sexual partners, increased use of contraception and increased educational attainment. Planned intervention components included: a report for schools on student sexual health needs informed by student surveys; a School Health Promotion Council (SHPC) involving at least six staff and six students to coordinate intervention activities and tailor the intervention to local needs; a teacher-delivered classroom curriculum for year-9 students (aged 13-14);

parent newsletters and homework; student-led social-marketing campaigns; and a SHPC-led review of school and local sexual-health services. Training and a manual were included for staff facilitating the council, curriculum and campaigns.

Project Respect's primary outcome was to prevent dating and relationships violence (DRV). Secondary outcomes included reduced sexual harassment, unintended pregnancy and sexually transmitted infections, delayed sexual debut, reduced numbers of sexual partners, and improved use of contraception, psychological functioning and educational attainment. The planned intervention comprised: a manual and training for key staff to coordinate intervention activities; training by these staff for other staff on preventing DRV; staff and student mapping of 'hotspots' for DRV on site and revision of staff patrols to address these; review of school policies to address DRV; a teacher-delivered classroom curriculum for year-9/10 students (aged 13-15); providing students with the 'Circle of 6' app for seeking support when experiencing or at risk of DRV; and parent information about DRV.

Initial design of both interventions was informed by studies of previous interventions reported as effective in promoting various sexual-health outcomes in randomized trials from the USA and Australia. Positive Choices was informed by Safer Choices, a whole-school approach to sexual health [41-43], particularly in terms of the centrality of the SHPC; by the Children's Aid Society Carrera youth development intervention [44], in terms of the emphasis on viewing RSE as part of broader student development and by the Gatehouse whole-school health intervention, [45] particularly in terms of modifying the overall school environment to support health improvement.

Project Respect was informed by the Safe Dates curriculum and school campaign intervention [21, 46, 47] and by the Shifting Boundaries approach to DRV prevention via modifying school environments.[48, 49]

Positive Choice's theory of change (Figure 1) was informed by social-marketing theory,[50, 51] [52] models of school change,[53] social influence theory [54] and social cognitive theory,[55] and focused on achieving positive sexual-health outcomes by improving contraceptive and safer sex knowledge and skills; self-efficacy to communicate about sex[56]; sexual competence[57]; communication at home about relationships and sex; and school-wide social norms supporting positive relationships/sexual health. Although the main outcome was unintended teenage pregnancy, the intervention, therefore, took a broader sex positive approach to addressing sexual health outcomes [56].

Project Respect's theory of change (Figure 2) was underpinned by the theory of planned behaviour[58] and the social development model,[59] which informed a focus on challenging student attitudes and perceived social norms about gender, appropriate behaviour in relationships and violence, and promoting sense of control over behaviour. This approach was also supported by reviews which suggest that DRV prevention should both challenge attitudes and perceived norms concerning gender stereotypes and violence, and support the development of skills and control over behaviour.[60]

Co-production

Overview

Following initial design, research funding was obtained for 'optimisation' and piloting of each intervention prior to formal feasibility testing. In this case, optimisation involved the further specification and development of the intervention components led by researchers in collaboration with specialist agencies who were to provide each intervention and involved consultation with secondary school staff and students; and other youth and policy stakeholders to produce fully elaborated interventions with materials appropriate for English secondary schools.

The Sex Education Forum (SEF) was the specialist development partner and provider for Positive Choices and the National Society for the Prevention of Cruelty to Children (NSPCC) for Project Respect. Part of the National Children's Bureau (NCB) charity, SEF advocates and provides resources for delivery of quality RSE in England. The NSPCC is also a charity, focused on preventing child abuse.

Optimisation planned to involve: review by researchers and SEF/NSPCC of evaluation reports and, where available, intervention materials from the interventions that informed Positive Choices and Project Respect; initial consultation with staff and students from secondary schools in England on intervention content, delivery and materials; drafting by SEF/NSPCC of intervention materials in collaboration with research staff; further consultation with schools, other young people (ALPHA) and policy stakeholders on intervention format and materials; and intervention refinement prior to piloting. In practice, however, as discussed below, the alignment of stakeholder consultation with intervention development was inevitably rather messier than this.

Consultation with schools

For Positive Choices, initial consultation with students and staff holding a range of roles in one London secondary school was carried out in June 2017 prior to the development of intervention delivery models and materials, which were to be piloted for feasibility and acceptability in the same school from September 2017. The session involved teachers and students from year-8 (Table 1) and focused on: acceptability of intervention aims, components and proposed modes of delivery; preferences for the content and format of the student needs report and the manual guiding the intervention; and identifying any perceived challenges to implementation. In the case of Positive Choices, further planned consultation on intervention materials once developed was not possible due to limited capacity for participation from the school.

For Project Respect, consultation involved two sets of meetings at four schools (two in south-east and two in south-west England). The first sessions were conducted in three of the schools in May 2017 and involved a mix of staff and students (Table 1). These focused on acceptability of intervention aims, components and delivery models, and content and format of the intervention, including training, the manual and the curriculum. This was supplemented by a telephone interview with a staff-member at the fourth school.

The second sessions occurred in July 2017, involving staff and students in consultations in three schools. These: sought feedback on draft curriculum materials; explored appropriate terminology for relationships and abusive behaviours; considered the role of social media in the conduct of young people's relationships and DRV; and identifying challenges to implementation.

All sessions were facilitated by two researchers (JC, GM, RM, RP, NT, TT) and a representative from the specialist agency who was to provide the respective intervention, with teachers and students placed into small working groups for discussion following introductions. The Positive Choices and the second wave of the Project Respect sessions were audio-recorded. Field notes were also taken during or directly after each session. Based on this, summary reports for each meeting were prepared. Recordings were not transcribed or subjected to formal qualitative analysis. For Project Respect, findings from each region were reviewed and synthesised to identify areas of consensus and disagreement.

Consultation with ALPHA group

For Positive Choices two meetings were held with the ALPHA group in July 2017 and April 2018, to explore young people's perspectives on parent engagement and the acceptability and potential challenges of implementing student-led social-marketing campaigns in schools. For Project Respect, the ALPHA group were consulted on draft lesson plans in October 2017. All ALPHA meetings were facilitated by trained public involvement officer (PG). RP and HY also attended the first Positive Choices meetings. All ALPHA meetings were audio-recorded and summaries drafted by the group's professional facilitator.

Consultation with practitioners and policy-makers

In March 2018, we convened a meeting of sexual health and sex education practitioners and policy-makers from governmental and non-governmental organisations to discuss the Positive Choices and Project Respect projects jointly. Following presentations on each intervention, participants provided feedback via small-group discussion on questions set by researchers, focusing specifically on intervention design and practical challenges to implementation. Drawing on facilitator notes, researchers drafted a summary of the event, again with no formal qualitative analysis.

Due to resource constraints within the project, this consultation took place towards the end of the Project Respect study, so could not inform optimisation prior to pilot. For Positive Choices, this consultation informed refinement of intervention materials as outlined below.

Ethics

Ethics approval for co-production procedures was granted by the London School of Hygiene and Tropical Medicine research ethics committee on 25th January 2017 for Project Respect and 5th June 2017 for Positive Choices. Students and staff were treated as research participants and provided with written information about the research one week beforehand, as well verbally just prior to the research. Participants were informed that they could stop taking part at any time or choose not to answer any

questions. All completed written opt-in consent/assent forms. Parents of participating students were provided with information and could opt out their children.

ALPHA participants gave written consent for their participation as research advisors on DECIPHer affiliated studies and for their contributions to be shared anonymously for all general purposes in relation to DECIPHer's work. Consultation with practitioners and policy-makers was treated as public engagement rather than research, so specific ethical review and consent were not sought. Participants were made aware of how their contributions would be used and received a summary of discussion, to which they could suggest amendments.

Incorporation of findings from consultation into intervention design

The summaries prepared for each of the above activities were shared with the specialist provider agencies for each intervention. Providers and researchers discussed the summaries arriving at a negotiated consensus about how these should inform models of delivery and materials.

Patient and public involvement

As outlined above, patient and public engagement was embedded within intervention design for both studies and forms the basis of this article.

Results

In the following sections we report the findings from consultations with school staff, students and other youth and policy stakeholders and describe how these informed the design of both interventions. These are also summarised in Table 2.

Consultation with schools

Eight staff and nine students (five girls, four boys) from year 8 (age 12-13) participated in the Positive Choices consultations. Fourteen staff and 66 students (34 girls, 32 boys) from years 9-10 (age 13-15) participated in the Project Respect consultations (Table 1).

For both Positive Choices and Project Respect, staff and students generally confirmed the acceptability of intervention aims, approaches and components. DRV, sexual harassment and unintended teenage pregnancy were recognised as salient issues for schools to address.

With Positive Choices, the prospect of tailoring of the intervention to specific student was particularly welcomed. Several school staff, nevertheless, raised concerns about student responses being used to inform curriculum content because they felt students might be unable to foresee what they needed to learn about relationships and sex for themselves.

Staff and students were also positive about Project Respect components. Parent engagement, a classroom curriculum, hotspot-mapping and the Circle of Six app were perceived as appropriate and

achievable. Teachers supported the 'train-the trainer' approach as a means of capacity development and limiting need for training cover. However, they also highlighted that it could be difficult for schools to release even these key staff for training and that this needed to be well planned out with each participating school. The scheduling of hour-long curriculum lessons was also highlighted as a potential issue and staff suggested that there was a need for curriculum lessons to be adaptable for split delivery over shorter (usually around thirty minute) tutor-time slots or longer 'off-timetable' days.

With regard to intervention materials, staff in both Positive Choices and Project Respect consultations reported that, because there was so little time for planning interventions and relationships and sex education (RSE), manuals needed to be comprehensive, but concise, 'sticking to the essentials' necessary for delivery. Similarly, teaching staff in Project Respect reported a preference for 'plug-and-play' curriculum materials that provided detailed lesson plans, scripts to help guide classroom discussion and PowerPoint slides, so staff with limited confidence, experience or time to prepare could deliver an effective lesson.

In contrast some staff also requested some flexibility in the curriculum design to allow those with more experience to adapt activities including where topics had already been covered in earlier RSE provision. Staff also reported they favoured materials provided electronically, and interactive PDF documents where they could easily locate relevant resources via live links.

Students laid out that intervention should reflect the reality of their experiences and recognise their emerging sexuality and involvement in intimate partner relationships – something they felt much of the RSE they had previously received did not do. In terms of curriculum format for Project Respect, they supported proposed pedagogical approaches including the use of role-play and small-group activities particularly for discussing sensitive topics and recreating real life scenarios. Students also indicated that it would be important to cover subtler or less obvious forms of abuse, such as controlling and coercive behaviours, and emotional abuse. They highlighted the need for training on how to respond if friends disclose DRV as well as the importance of ensuring that lessons covered the role of social media in DRV and sexual harassment. Staff and students also offered a range of terms to describe DRV and relationships, and suggested that terminology should be introduced and defined early in lessons. For both Project Respect and Positive Choices students suggested that the curriculum elements should be introduced before year 9, in year 7 or 8 when students are 11-13.

In consultations students had mixed views about the acceptability of teacher-delivered RSE proposed in both interventions. Some saw benefits to delivery by staff with whom they already had trusting relationships, suggesting this could promote reporting of safeguarding issues. However, they also associated teacher-led delivery with risk of breaching student confidentiality. Lessons led by teachers with whom students had more negative relationships were perceived to potentially to compromise learning. Some suggested that an external provider might allow more honest conversations and increase confidentiality. Most important though, was that whoever taught the lessons should be non-judgmental,

able to respect confidentiality and connect with the 'reality of young peoples' lives'. Staff explained, however, that in practice the selection would largely depend on timetabling and availability.

Across both interventions, teachers proposed that involving outside specialists could usefully cover topics they felt ill-equipped to teach, such as sexual violence and female genital cutting/mutilation. Some students and staff also commented that lessons discussing sensitive issues should be taught in single-sex groups. One teacher's preference for single-sex teaching was rooted in an explicitly feminist conviction to provide female students with a safe and supportive environment for active participation, where they would feel less marginalised by boys. A suggestion from staff and students was to teach some of the content in single-sex classes, but bring groups together at the end of a lesson to share learning.

Consultation with students and staff on the most appropriate models of engaging with parents revealed that schools already had a variety of approaches including: sending letters home with students; communicating via email, text or social media; posts on school websites; and parent events.

Consultation with the ALPHA group

A total of 12 males and 10 females participated across three ALPHA consultations (Table 3).

For Positive Choices ALPHA members were generally supportive of the student-led social-marketing element of the intervention as complementary to more formal teacher-led lessons on the grounds that student-led campaigns could ensure sexual health messaging was relevant to young people. Participants raised the importance, however, of ensuring campaigns were both genuinely student-led and that messages were consistent with the programme aims.

Participants broadly supported the parent component of Positive Choices, recognising the value of informing parents about the RSE being taught in school and involving them in supporting their children's learning at home. Some participants, however, were more sceptical about resources (like homework assignments or newsletters) aiming to prompt conversations at home and felt that many students would avoid carrying out homework activities due to the risk of embarrassment or breaching existing child/parent boundaries.

For Project Respect, ALPHA consultations generally supported the use of small group and scenario-based learning activities that enabled students to reflect on 'real-life' scenarios. ALPHA also raised some concerns about the sensitivity of some of the Project Respect lesson plans and ensuring appropriate support for students who have experienced or witnessed DRV or other abuse. They suggested that, across lessons, attention to the use of online and social media in the conduct of young people's relationships was important.

Consultation with practitioners and policy-makers

Twenty-three practitioner and policy-maker stakeholders from governmental and non-governmental organisations in the field of education and health attended the event.

Stakeholders were generally positive about both interventions, their theoretical basis and the whole school approach, although some were concerned about curriculum only covered year-9 and/10 rather than including a spiral curriculum spanning all years and how the intervention might affect existing provision in schools, especially where this was already good. Participants anticipated that one of the major challenges to implementation would be ensuring schools prioritised the interventions, given other pressures, and made suggestions to address this. These included: increased engagement with head teachers and/or senior leadership teams; dissemination of programme information to all school staff; seeking 'buy-in' from school governors and parents; involving local partners with long-standing relationships with schools, such as those in public-health departments or school networks; and maintaining regular contact with a named strategic lead with enough seniority to drive implementation.

Participants recommended that to ensure school commitment, the researchers should highlight what schools stood to gain from the interventions beyond the improved sexual health of their students. This included: free staff training to support continued professional development; specialist-designed curriculum materials; improved safeguarding procedures; meeting statutory obligations to support students' social and emotional wellbeing; contributing to meeting national school-inspectorate criteria; and potential for improved pupil attendance and attainment. Stakeholders also suggested implementing service-level agreements with schools, highlighting expectations for intervention providers, schools and researchers.

Incorporation of feedback into intervention design

Table 2 summarises how student, staff, ALPHA and policy and practitioner feedback was incorporated into Positive Choices and Project Respect designs. Due to the timeline for the two projects, many of the findings from the Project Respect consultations could successfully inform Positive Choices. However, resource constraints leading to the joint stakeholder meeting falling later that initially anticipated, meant it was not possible for findings from this meeting to be fully incorporated into Project Respect prior to the start of piloting.

Feedback from all stakeholders in general confirmed the acceptability of interventions aims and components in both interventions, so these were not modified. Staff concern around student preference shaping curriculum content in Positive Choices also supported our planned approach to include a recommended set of 'essential' RSE lessons to be covered in all schools and a set of 'add on' lessons, the selection of which would be informed by student data.

Based on findings from teachers, an element of flexibility was built into both Positive Choices and Project Respect, to enable the delivery of lessons in shorter periods. However, SEF (the Positive Choices intervention development partner) advised against delivery through single 'off timetable' (or 'drop-down')

days if possible, as this approach does not allow for sufficient reflection between lessons and for students to build knowledge, skills, competence and over time.

Manual materials were developed with teacher preferences in mind, but recommendations for curriculum materials to be very prescriptive was contentions for SEF as they were concerned that this did not fit with best practice for delivery of quality RSE in schools in which highly trained, competent and confident professionals curate and tailor available resources to their context and students. After some discussion, however, researchers and SEF agreed that it was a priority that materials enabled the research to team to effectively measure fidelity and that the materials fitted with what was likely to be the current reality of teaching RSE in many English secondary schools, where the subject is afforded little priority, time for preparation is limited and less experienced teachers may be required to deliver. Ultimately both interventions were designed with detailed and prescriptive lesson plans, slides and guidance notes. Based on teacher feedback some flexibility was, however, also built into lesson plans through the incorporation of additional optional material that teachers could draw on to extend learning beyond essential items. Decisions to omit any part of the curriculum due to prior teaching and whether intervention or existing materials were similar provision already existed were to be managed by the schools and the specialist provider on a case by case basis.

Based on student feedback we opted to continue with teacher delivered curriculum in both interventions, but with clear instruction on the selection criteria for teachers to deliver the curriculum elements. Suggestions to cover subtler, less obvious forms of violence and include training on how to help someone experiencing DRV confirmed planned approaches in Project Respect, while the inclusion of accurate signposting information and increased acknowledgement of the relevance of online and social media in young people's relationships was included in both interventions. Identifying the range of terminology used by young people for DRV also led to key terminology to be used in Project Respect lessons being clearly defined early in curriculum materials. Student feedback that that curriculum materials should 'reflect the reality of their lives' also underscored the value of the needs assessment in Positive Choices.

Although some students had suggested that curriculum elements should be introduced earlier, this was not something that was possible to incorporate into either intervention as this contradicted earlier consultation with teachers in the initial proposal development phase and had already become established in our agreed study protocols. Including a curriculum for all school years, as suggested by professional and policy stakeholders, was also not feasible due to the constraints of the study design. Similarly, we were unable to offer an option for external educators to compliment the curriculum elements due to budget constraints. Despite both staff and student feedback, single-sex teaching in co-educational settings was also generally not recommended as some important learning in both interventions was reliant upon discussion between students of different genders. Preferences to deliver in single-sex classes because of cultural or religious sensitivities were, however, to be discussed with individual schools on a case-by-case basis.

Based on student and ALPHA feedback flexibility was built in to how the parent materials could be disseminated by schools. Homework activities in Positive Choices were also chosen to reflect ALPHA concerns that these could be embarrassing for parents and children. Activities aimed to ease into discussions at home, focussing initially on the universal, relatively less sensitive topic of 'rites of passage' progressing to focus on 'abusive and healthy relationships' in a later assignment.

ALPHA feedback regarding genuine student participation and a need for accountability of student led marketing campaigns led to plans for the joint staff-student School Health Promotion Councils (SHPCs) to oversee student led social marketing activity.

Strategies for increasing school engagement suggested by the professional and policy stakeholders were incorporated in to the Positive Choices manual and school communication materials, and additional school meetings and service level agreements were planned for pilot schools.

Discussion

Summary of key findings

Consultation with schools, ALPHA and practitioner and policy stakeholders generally supported intervention aims, components and models of delivery and teacher feedback supported decisions about how to incorporate student voice in the selection of Positive Choices lessons. Contrary to much of the existing literature,[61, 62] students confirmed the potential acceptability of teacher-led delivery, but the need for careful selection of which staff taught lessons. Students and ALPHA sensitised us to the need to ensure content and materials reflected the reality of young people's lives - a concern reflected in much of the RSE literature [63-65] - including their digital cultures, and confirmed the value of the student needs report in Positive Choices. Students also confirmed the need for broad coverage of different types of DRV, accurate signposting and training in supporting someone experiencing DRV and to define DRV terms clearly early on in curriculum materials.

Consultation with school staff, practitioners and policy-makers highlighted the competing priorities for school leaders' and teachers' time and their limited capacity to commit to implementing public-health interventions. Their feedback prompted us to develop clear and concise intervention guides and prescriptive curriculum materials in line with what school staff felt was workable and to adopt strategies suggested by practitioners and policy makers to ensure school buy-in. Consultations also suggested the need to build flexibility into our intervention design by giving schools options to adapt how lessons were timetabled; some of the curriculum content depending on teacher time, competence, and their existing school provision; and the mode through which parents were engaged.

A strength of our particular approach was the inclusion of a diverse range of stakeholder groups, which ensured different participants could speak with authority to different aspects of intervention design. Students, for example, were able to inform us about their preferences for content and delivery, enabling us to improve the relevance our interventions. Teachers provided insight into the current school climate and

'what would work' practically in terms of implementation in these settings. ALPHA members drew on their experiences of school and their training as advisors on public-health research to provide authoritative views on intervention design. Practitioners and policy-makers could advise on the broader context of the English education system, particularly in relation to securing commitment and ensuring delivery in secondary schools.

There were, however, also occasions where it was not always possible to straight forwardly adopt the advice of students, staff or other stakeholders as their perspectives contradicted existing best practice (in the case of single-sex teaching) or the constraints of the study design limited inclusion of recommended changes (in the case of earlier curriculum implementation, providing a spiral curriculum across years or including external educators to compliment teacher-led lessons).

This raises important questions about the extent to which stakeholder feedback can reasonably be incorporated into intervention design when it threatens to undermine the logic of interventions or where this may impracticable. Having well-defined, transparent procedures for deciding how stakeholder input is to be prioritised and incorporated from the outset is therefore essential.

Limitations

This study was likely subject to an element of selections bias. In many cases teachers self-selected based on their interest in the topic following an invitation from school leaders. Although we requested a diverse and inclusive sample of students for meetings, in some cases students who were perceived to represent the school favourably may have been selected. Personal relationships with teachers and, quite simply, which students were available on the day may also have shaped these decisions. More generally, this raises important considerations about incorporating stakeholder views that may not be representative of intended recipients and consequently about the potential for co-production to lead to equity harms where interventions are developed in line with the cultures and preferences of some groups at the expense of others, who may be at more risk.[66] In our case, including range of stakeholders including those with a broader perspective and expertise in delivering RSE in schools helped mitigate this to some extent, but tensions arising between different stakeholder views can also be an issue that needs careful management [39].

Reflecting feasibility issues identified in our research, pressures on school timetables and staff time affected the scheduling of face-to-face consultation and meant that some schools were not able to participate as fully as initially planned. Indeed, the potential burden co-production can place on participants, who may already have very full workloads, has been widely acknowledged and there is a need to ensure that participants are appropriately acknowledged and compensated for their contributions.[39, 67]

Finally, while acknowledging that 'co-production' varies as to the authority possessed by stakeholders,[30, 39], we accept that there are limits to how far we can claim our own approach fits with the traditional definition of empowering participants to take an equal or lead role in intervention development, if indeed

this is what any of them desired.[39, 68-70] The active involvement of specialist provider agencies in the elaboration of both interventions resembled a more collaborative approach with providers drafting the materials and researchers feeding in to ensure materials aligned with the theory of change and intended outcomes, and full discussions taking place about the incorporation of stakeholder feedback - albeit with the research team leading the work and having ultimate responsibility over decision making as contractors and owners of any new intellectual property. With students, school staff and other youth and police stakeholders the process was more instrumental and researcher-led, resembling a more consultative approach where particular items were brought by researchers for discussion and augmentation, rather than being created anew.[68, 71, 72] This inevitably limits the scope of co-production and greater depth of involvement may give greater assurances of the relevance of intervention aims, content and materials creating an intervention that truly reflects the experiences of young people - something that is incredibly tricky for sex educators and intervention developers to keep up with [65]. This, however, will bring its own challenges in terms of stakeholder burden and how to balance power in decision making where attention to local context and student needs must be considered alongside the opportunity to build upon evidence-based approaches.

Conclusions And Implications For Further Research

Our work confirmed the potential feasibility of multi-component, whole-school interventions targeting unplanned teenage and dating and relationships violence and teacher delivered curriculum for implementation in English secondary schools and also highlighted the need for important refinements to improve potential for adoption. Following refinements made via 'co-production' to enable flexibility for the timetabling of curriculum and modes of parent engagement; greater emphasis on young people's digital cultures; the provision of prescriptive (but also adaptable) curriculum materials; and the development of robust engagement strategies for schools further piloting of Positive Choices and Project Respect via cluster randomised trial to formally assess feasibility is warranted. While (as in our case) we believe involving potential recipients, deliverers and other stakeholders in intervention design can provide valuable insights that are likely to reduce research waste by maximising the applicability of interventions to local settings prior to formal piloting and evaluation, there is a need to carefully consider from the outset the depth of involvement required and how stakeholder feedback will be incorporated (and when it will not) as well as any practical challenges that might hinder co-production activities or produce intervention harms.

Abbreviations

ALPHA - Advice Leading to Public Health Advancement

Centre for Development and Evaluation of Complex Interventions (DECIPHer)

DRV – Dating and Relationships Violence

NCB – National Children's Bureau

NSPCC – National Society for Prevention of Cruelty to Children

PC- Positive Choices

PR – Project Respect

RSE – Relationships and Sex Education

SHPC – School Health Promotion Council

SEF – Sex Education Forum

Declarations

Ethics approval and consent to participate

Ethical approval for collection of the data on which this article is based was granted by the London School of Hygiene and Tropical Medicine on 25th January 2017 for Project Respect and 5th June 2017 for Positive Choices.

This manuscript does not contain any individual person's data in any form.

Consent for publication

This manuscript does not contain any individual person's data in any form.

Availability of data and materials

The dataset supporting the conclusions of this article are available on request.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

RP led on data collection, analysis and interpretation for Positive Choices and drafted the paper. RM and JC led on data collection for Project Respect and contributed to analysis and interpretation of the data. SB contributed to data collection, analysis, and interpretation of data for Positive Choices. LE led on Positive Choices intervention development for SEF. TT, GM and NT contributed to collection, analysis, and interpretation of data for Project Respect. PG and HY led on work with ALPHA. RC contributed to the design and led on the Project Respect study for the SW of England. CB conceived of and led on both studies, and contributed to drafting the paper. All authors commented on and approved the final version of the manuscript.

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Tables

Table 1. School consultation participants

		Positive Choices	Project Respect			
			Wave 1		Wave 2[a]	
			South-east England	South-west England	South-east England	South-west England
Year-8	Girls	5	0	0	0	0
	Boys	4	0	0	0	0
Year-9	Girls	0	6	2	6	5
	Boys	0	3	4	6	6
Year-10	Girls	0	5	4	6	0
	Boys	0	6	1	6	0
Total students	Girls	5	11	6	12	5
	Boys	4	9	5	12	6
	All	**9**	**20**	**11**	**24**	**11**
Staff		**8**	**6**	**3**	**4**	**2**

[a] In Project Respect, some of the wave 2 participants had also participated in wave 1

Table 2. Table of how stakeholder feedback informed intervention design

Intervention	Stakeholder feedback	Stakeholder group	How incorporated into intervention design
PR and PR	Intervention aims appropriate and relevant.	Consultation with students, teachers, ALPHA and policy stakeholders	Confirmed planned approaches
PR and PR	Interventions components appropriate. Tailoring to student needs particularly valued.	Consultation with students and teachers	Supported planned approaches
PR	Concern over student preference informing selection of whole curriculum.	Consultation with teachers	Curriculum developed with essential and 'add on' lessons the selection of which was to be informed by the student needs assessment.
PR	Train-the-trainer model acceptable and helpful in reducing number of teachers needing to be released for whole day training.	Consultation with teachers	Confirmed planned approaches
PR	Curriculum lessons need to be adaptable for split delivery over shorter than an hour slots.	Consultation with teachers	Built in to design of curriculum lessons for both PC and PR
PR and PC	Manual materials need to be concise and to the point. Supporting evidence and theory should be provided as appendices.	Consultation with teachers	Manual materials for both projects developed with these points in mind.
PR and PC	Curriculum materials should be 'plug and play' so staff with limited confidence, experience or time could deliver an effective lesson.	Consultation with teachers	It was agreed that pragmatically and to ensure fidelity of implementation prescriptive materials should be developed for both interventions.
PR and PC	Materials should be adaptable for more experienced or confident teachers	Consultation with teachers	Essential material and where adaption was possible was highlighted in both interventions and a selection of additional materials and options for differentiation included.
PR and PC	Options to adapt lesson content to schools' existing provision	Consultation with teachers/Professional and policy stakeholder event	Assessed on a case by case basis following a review of what schools have already covered and materials used.
PR and PC	Intervention materials should be provided in electronic format and in hard copy.	Consultation with teachers	Materials supplied electronically to all staff and in online format for PC. Hard copies handed out at trainings.
PR and PC	Introduction of interventions at an earlier stage in years seven when students are aged 11-12 or eight when students are aged 12-13.	Consultation with students	Contradicted teacher and student feedback in earlier consultation. Was agreed with specialist provider agencies that intervention content was appropriate for years 9 for PC and 9 and 10 for PR.
PR	Curriculum should accurately reflect young people's experience and recognise them as sexual subjects	Consultation with students	Confirmed value of needs assessment in Positive Choices.
PR	Small group, discussion activities and 'real life scenarios to reflect on appreciated by young people.	Consultation with students and ALPHA	Confirmed planned approaches on PR and PC.
PR	Subtler or less obvious forms of abuse should be covered by the intervention	Consultation with students	Confirmed planned approaches in PR.
PR	Appropriate signposting and	Consultation with ALPHA	Built in to each lesson for both interventions.

	support should be provided for students, including how to support friends who disclose abuse.		
PR	The role of social media in young people's relationships should be reflected in lessons.	Consultation with students and ALPHA	Informed lesson design
PR	Young people use a range of terms to define dating and relationships	Consultation with students	Terms and meanings used in the intervention defined clearly for both students and staff in intervention materials.
PC and PR	Teacher educators can be acceptable and valued, but careful selection of teachers is required.	Consultation with students	Confirmed planned approaches, but schools were encouraged to select trained teaching staff and those with an interest and commitment to teaching these topics.
PC and PR	External educators may increase sense of student safety in the classroom and bring specialist, expert knowledge to lessons.	Consultation with staff and students	Model promotes training staff to be competent in teaching topics covered by each of the interventions. Budget did not allow for the inclusion of external experts to deliver lessons for each school, although schools were able to source these as part of their usual provision if they so wished.
PC and PR	Some 'sensitive' topics should be taught in single sex lessons.	Consultation with staff and students	Generally, runs against best practice for the delivery of RSE. Guidance was provided for schools that lessons should be taught in mixed sex groups to enable the sharing of ideas and discussion across genders, and model real life experiences. Also, potential alienation of trans, non-binary or questioning students.
PC	Student led social marketing campaigns needs some wider oversight to ensure student messaging is consistent with programme aims	Consultation with ALPHA	Oversight to be provided by the School Health Promotion Council (SHPC). Specific links and responsibilities for SHPC oversight built in to design of student led social marketing component.
PR and PC	Flexibility in the mode of parent engagement. Parent engagement materials should be sensitive to local home cultures. Homework could breach parent/child boundaries	Consultation with staff, students and ALPHA.	Mode of engaging with parents (e.g. for disseminating information and newsletters) and exact content of information left open for schools. In line with SEF intended plan, homework assignments remain defined as an essential part of the curriculum, but introduced carefully.
PR and PC	Deep engagement with senior leadership members at participating schools to encourage school commitment	Professional and policy stakeholder event	For PC face to face meetings organised with all head teachers
PR and PC	Disseminate information about interventions throughout the school community to awareness throughout the school and promote school commitment	Professional and policy stakeholder event	For PC guidance on launch activities and disseminating information provided in intervention materials
PR and PC	Involve local stakeholders (school governors; parents; local authorities and other agencies) to generate support for implementation.	Professional and policy stakeholder event	Included in guidance for PC.
PR and PC	Maintain regular contact with strategic lead at each school.	Professional and policy stakeholder event	Implemented for both PR and PC.
PR and PC	Highlight to schools the direct benefits to them of taking part in the trials (not just public health benefits).	Professional and policy stakeholder event	Described in manual materials for PC. Interventions mapped to school obligating to safeguard children and promote social and emotional wellbeing, and to school inspectorate judgements. For PR, confirmed inclusion of information on the impact of DRV on educational attainments in training materials.

PR and PC	Implement service level agreements with all schools	Professional and policy stakeholder event	SLAs implemented for PC in pilot. Timing did not work of PR.

Table 3. ALPHA Participants

Age in years	Positive Choices		Project Respect	
	Girls	Boys	Girls	Boys
14	2	1	0	0
15	3	2	0	1
16	1	1	0	0
17	1	0	2	2
18	1	3	0	1
19	0	1	0	0
Total	8	8	2	4

Figures

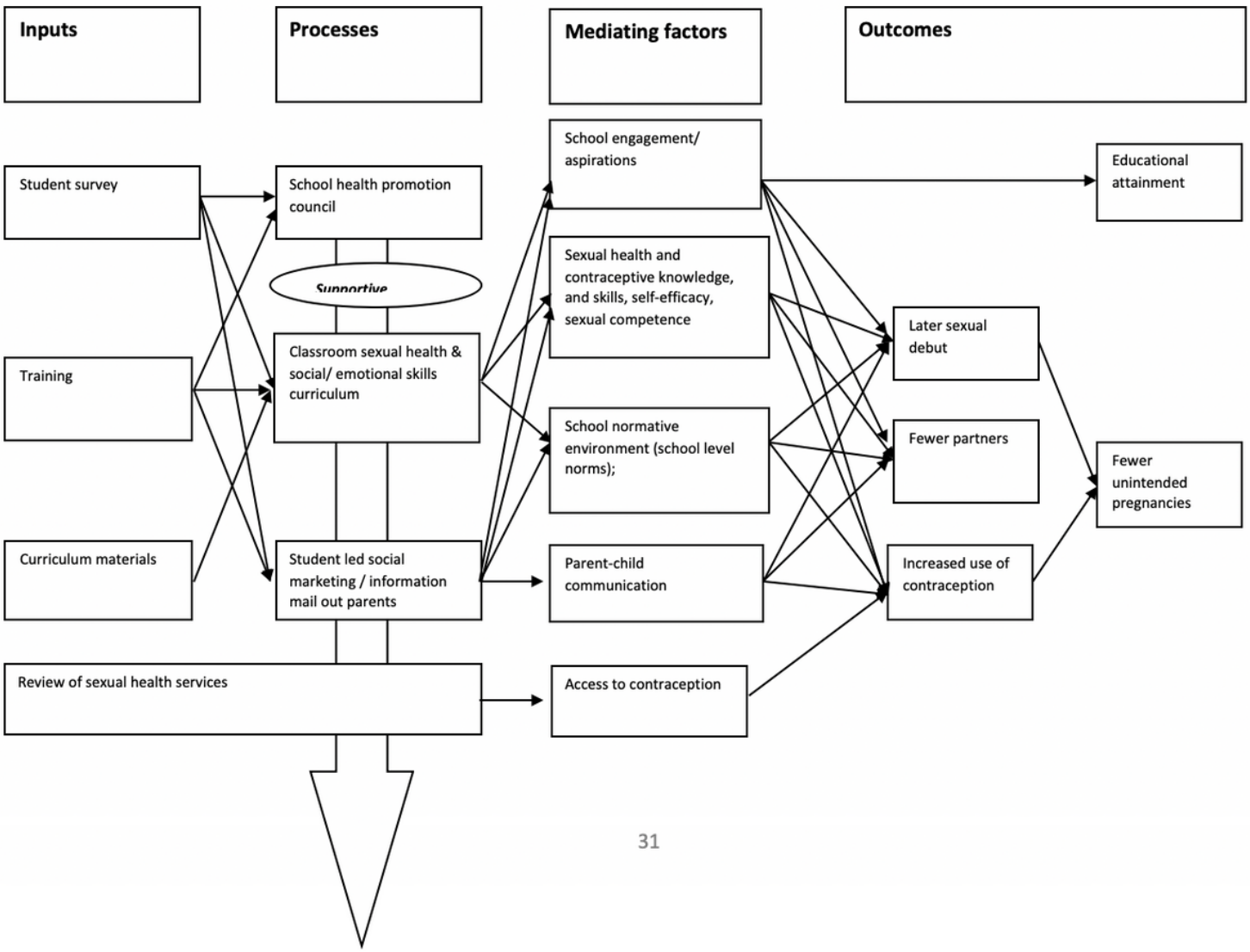

Figure 1

Positive Choices Logic Model

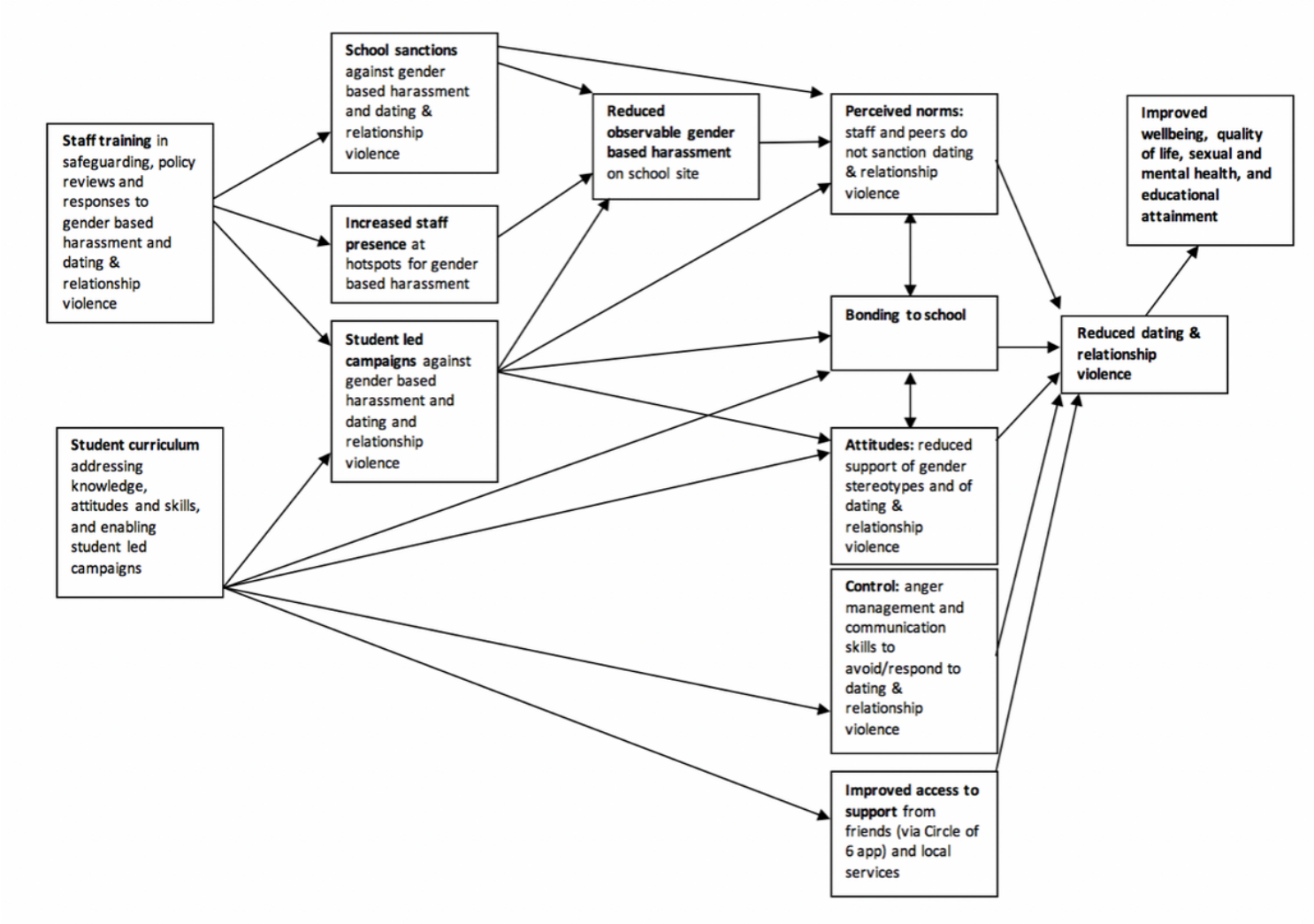

Figure 2

Project Respect Logic Model

Supplementary Files

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- TIDieRChecklistWordOPT.docx
- SRQRchecklistOPT.docx