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Structured protocol

Version 8: Annotated

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Title: SWISH (See Well to Stay In ScHool: Randomised trial of spectacle distribution to secondary school children with myopia to increase academic high school attendance rates in rural communities)

Aim and objectives:

Aim: To determine whether provision of free spectacles to rural-dwelling Chinese secondary school students with visually-significant refractive error, together with a teacher-based incentive to promote their use, increases the proportion of children going on to academic high school, as opposed to dropping out or pursuing a vocational track

Objectives:

a. To compare the proportion of children going on to academic high school, dropping out or pursuing a vocational track after they are provided with free glasses at the beginning of trial, and an incentive to wear them (intervention group) to the control group (initially given only prescriptions, with free glasses provided at the end of the trial)
b. To compare the spectacle wear among school children in the intervention group and the control group (intermediate analysis)
c. To compare mathematic test scores among school children in the intervention group and the control group (intermediate analysis)
d. To determine the cost-effectiveness, incremental costs and incremental cost-effectiveness ratio of the intervention
e. To determine if full correction of shortsightedness slow the progression of shortsightedness compared with under-correction
f. To determine whether the provision of free spectacles to students with vision impairment can improve their mental health outcomes

Background:

China's children bear an unfair share of the world's burden of uncorrected refractive error: Among all children with impaired vision due to lack of glasses globally, half dwell in China,[1] a number which is rising and may exceed 100 million by 2020.[2] In fact, over 90% of vision impairment among China's children could be solved with an accurate pair of spectacles.[3] Glasses provide a safe, effective and cheap solution to the problem of refractive error, of which myopia (near-sightedness) is the most common manifestation. Unfortunately, only 15-25% of children needing glasses and living in China's underserved rural western[4] and urban migrant[5] communities have them. Cost issues are not the only barrier. Widespread misconceptions persist among parents, teachers and even health officials that wearing glasses will weaken young children's eyes (increase myopia).[6,7] Our recent trials in China have in fact shown that glasses wear in young children does not in fact worsen myopia,[4] and that simple teacher incentives combined with free spectacles can lead to high rates of children's ownership and use.[8] We have also shown that distribution of free glasses can be sustained through sales of attractive "upgrade" spectacles, even in relatively poor areas.[9] Many of the conditions to promote large-scale government programs of spectacle distribution in China have been fulfilled, in that a very wide-spread and largely-unaddressed disability is now shown to be amenable to safe, inexpensive and sustainable treatment. Improving

accessibility of high-quality refractive services in rural areas has in fact been identified as a key priority in China's most recent 5-year Blindness Prevention Plan.[10]

The timing of this project is particularly opportune, as the Chinese government announced in late August 2018 that it was planning a national comprehensive program for management of children's myopia (https://www.iapb.org/news/the-chinese-government-takes-steps-to-tackle-myopia-in-children/). One of the strongest arguments for the Chinese government to expand and continue such national programs of vision screening and spectacle distribution, as other low and middle-income countries have done,[11] is growing trial evidence, largely provided by our research team, that provision of spectacles significantly improves children's educational outcomes.[4,12]

Our two previous, randomised trials in China[4,12] demonstrate that provision of free spectacles significantly improves children's test scores over the course of a single school year. The See Well to Learn Well I (SWLW I) trial[4] enrolled 3177 children (mean age 10.5 years) with under-corrected refractive error at 250 schools in rural western China, and showed significantly higher test scores among children randomised to receive free spectacles compared to Controls given prescriptions only (unadjusted difference in test scores 0.11 SD, 95% CI 0.01 to 0.21, P=0.04). The significant difference persisted when adjusting for child, family and school factors, and was greater than the effect of parental education or family wealth. The effect size increased with increasing use of blackboards (as opposed to textbooks) in classroom teaching, from a non-significant effect among children receiving little or no blackboard teaching to 0.45 SD (P=0.01) among children using the blackboard for most or all teaching. This adds to the biological plausibility of the results, as near-sighted children (the very large majority of participants) would be hampered in their ability to see a distant target such as a blackboard.

These results were confirmed by a similar trial among 1200 children in Shaanxi, western China, in which test scores were significantly higher (0.25 SD, 95% CI 0.01-0.48, P=0.04) among children randomised to referral for spectacles early in the school year as compared to those referred at the end of the school year. To place these results into perspective, the observed effect sizes in these two trials were equivalent to roughly an additional half semester of learning. (www.mdrc.org/publication/459/ful.pdf). An unpublished review of randomized trials with educational outcomes in primary schools in the developing world (http://academics.wellesley.edu/Economics/mcewan/PDF/meta.pdf) has listed 60 health-related trials, including 22 of deworming, with a mean effect size of 0.013 SD, and 38 of nutritional or micronutrient supplementation, with a mean effect size of 0.035 SD. Therefore, the impact on education outcomes with the provision of glasses in this study compares favourably with that of other health related interventions.

The impact of glasses distribution on educational outcomes, as with other health interventions, has been limited to some extent by low compliance. For example, in SWLW, observed glasses wear among Intervention group participants on un-announced examinations was only 41%. In the See Well to Learn Well II trial (SWLW II),[8] we demonstrated that this problem of poor compliance could be effectively overcome with the use of teacher incentives. Among 728 children (mean age 10.9 years) at 94 urban migrant schools in Shanghai, those randomised to receive free glasses in addition to a teacher incentive had observed wear rates significantly higher (68.3% versus 23.9% on un-announced examination at the end of the school year, OR=11.5, P<0.001) than those of Control children receiving prescriptions only. Use of teacher incentives can yield high rates of spectacle use over the course of a full school year, even using very conservative

definitions of wear and in schools serving disadvantaged children of relatively un-educated parents (urban migrants).

We propose in the current trial to significantly expand the evidence base for spectacle distribution as the most-effective health intervention to improve educational opportunities for China's under-served rural western children and adolescents by assessing impact on school attainment. Improved performance while in school is undeniably important for a child's future, but interventions that can successfully promote completion of secondary education are even more impactful in facilitating participation in the modern Chinese economy. And in fact, children in poor areas of rural western China such as Ningxia, where the proposed trial is based, have among the lowest rates of high school attainment in China, in the range of 20-30%.[9,13] Rates of academic high school attainment in wealthier urban areas of the country, by comparison, routinely exceed 90 percent.[11] The impact of additional education on the long-term prospects of these children are substantial: the 10-year lifespan return on college education (for which attendance at academic high school is a prerequisite) is estimated at 42 percent.[13]

Plan of investigation

Study design: This will be cluster-randomised trial, as provision of free glasses to some children and of prescriptions but no glasses to others at the same school will not be practical. The trial will be investigator-masked, but not participant-masked, because the investigators do not feel provision of zero-power spectacles to the Control group is ethical. However, participants will be unaware of the study hypothesis, limiting potential placebo effects.

Study sites: Children in the proposed trial will be enrolled at 120 randomly-selected secondary schools throughout rural Ningxia Autonomous Region, western China. Ningxia has been chosen as a poor region (21st among 31 administrative regions in China in per capita disposable income, with the rural area ranking in the bottom five),[14] where prevalence of uncorrected refractive error is high (70% among children needing glasses) and academic high school attendance is low (30%).

Sample size and power calculations: Using Optimal Design software (www.wtgrantfoundation.org.), we determined that a sample size of 130 schools (65 in each of two study groups, roughly 5460 children in total), assuming (based on our previous studies in western China): (a) 60 students/class, (b) 2 classes/school (one 7th Grade or Middle School Year I, one 8th grade or middle school year II), (c) 50% rate of failing vision screening (d) 70% of children needing glasses either do not have them or require a more accurate pair (children in the Intervention group already having glasses will still receive a new pair and be enrolled in the trial if their visual acuity with current glasses falls below 6/12), and allowing for 10% loss to follow-up conferred 85% power, with an α of 0.05, intra-class correlation of 0.15, and explained variation by covariates (R^2) of 0.40, to detect a difference of 10% between the groups in the main study outcome (attendance at academic high schools), assuming that the high school attendance rate in the Control group is 30% (based on REAP's recent studies).[7,9] The measurement of clustering within schools used here (ICC=0.10) is based on our previous trials in rural western China.[1,2] We have based the size of difference in main outcome which the trial is designed to detect on other trials carried out by SXNU, Clearly and REAP designed to reduce dropout at the time of high school, carried out by SXNU, Clearly and REAP designed to reduce dropout and boost enrolment into academic high school by way of a counselling program and high school tuition waivers.

Loss to follow-up in SWLW I and II[4,12] was approximately 4% over the course of one school year, and so our calculations here assume a loss to follow-up of 10% over 2-3 years. However, we have not adjusted for non-compliance because we will use a strict intention-to-treat analytic approach where children in schools allocated to the Intervention group will be analysed as such irrespective of compliance and because our intention is to test the policy of making free glasses available to those students who need them, rather than the effect of those students actually wearing the glasses. Further, our expected effect size is based conservatively on previous trials with compliance rates of approximately 40%, which we feel can be improved on in the current trial with teacher incentives as above.

Inclusion criteria: Students will be eligible if they are in selected Year 1 and 2 classes (likely age 12-15 years) at the recruited schools and have uncorrected (without glasses) visual acuity of ≤6/12 in either eye; refractive error meets cut-offs shown to be associated with significantly greater improvement in visual acuity when corrected[7] (myopia ≤−0.75 diopters (D, or astigmatism (non-spherical refractive error) ≥1.00 D); and visual acuity can be improved to >6/12 in both eyes with glasses.

Exclusion criteria: Hyperopia ≥2.00 D; County schools and schools in Yinchuan (urban schools); Presence of visually-significant ocular condition besides refractive error,

Sample size calculation to determine if full correction of shortsightedness slow the progression of shortsightedness compared with under-correction

We estimate that the axial length of children in the control group and intervention group to be 24.2mm and 24.0mm respectively. If we power the study at 80% with an alpha error of 5%, we will need to include a total of 1766 children in our analysis.

Considering power of 90%, alpha error of 5%, intra-class correlation of 0.15, if 5460 secondary school children with myopia are successfully followed up, we will be able to detect a decrease of 20%-34% occurrence in the intervention group for all mental health indicators which include depression, anxiety, self-esteem and quality of life.

Methods:

1. Subjects recruitment: A complete list of middle schools will be obtained from local education bureaus in Ningxia Autonomous Region outside the capital of Yinchuan. We will randomly select one school from each township in the sample (to avoid risk of contamination between study groups), and within each school will randomly select one class in each of Middle School Years I and II (that is, a total of two classes/school; likely age range 12-15 years). In this fashion, the study sample will be representative of an area in western rural China known to have low rates of attendance at academic high schools and of access to glasses among children needing them. All children of consenting parents in the selected classes will be offered free vision examinations and refraction (measurement for glasses) at the school, and those meeting eligibility criteria will be enrolled and randomised by school to one of the two study groups.

   It is crucial that recruitment of schools and participants take place as early in the school year as possible, in order to maximise children's learning opportunities once glasses are received. We completed vision screening for 20,000 children and spectacle distribution as needed at 252 schools in western China during the SWLW I[1] in a one-month period. Based on this experience and our other trials,[8,12,15] we propose that initial assessment of visual acuity will be completed by teams of volunteer students from SXNU at all schools within 2 weeks in early October 2021, and that refraction (measurement for glasses, by

local refractionists trained by experts from ZOC) and distribution of spectacles (Intervention schools) and prescriptions (Control schools) will be completed within 2 weeks in late October and early Novembe 2021.

2. **Randomization and allocation concealment:** Schools will be stratified by three variables: prefecture; mean baseline test score; and the number of students failing vision screening in Years I and II. Information on these variables will be collected during a baseline survey and screening. This stratification will assure balance between the study groups in these key variables, which are those most likely to affect the main trial outcome. Within each stratum, a school will be randomly allocated to one of the two intervention groups. Stratification and random assignment will be carried out at a central location (Zhongshan Ophthalmic Centre, Sun Yat-sen University, Guangzhou, China) by the main study statistician using R software (R Foundation for Statistical Computing, Vienna, Austria) and concealed from the study team until the school has agreed to join the trial and the eligible students have undergone vision screening.

3. Children at **Intervention schools** will receive free spectacles of a design they select, based on the child's measured refractive power and dispensed at school by the study optometrist. A letter with information about the free glasses program and including the child's prescription will be sent to parents. Additionally, teachers (but not children) in eligible classes will be informed that if ≥80% of children given glasses are wearing them at the time of 3 unannounced class visits by study investigators the teachers will receive a conditional cash transfer of £275 (deposited directly into their bank account). The conditional cash transfer is contingent on a teacher's ability to ensure 80% spectacle compliance as measured across three separate unannounced inspections. This offer will be made to Chinese, mathematics, and English teachers (the main academic subjects in Chinese secondary schools). Intervention group children in middle school Years 1 and 2 will receive spectacles at the beginning of the academic year (September 2021). Assuming that the relevant effects of treatment (glasses wear) on the main study outcome are complete once examinations determining high school attendance are finished at the end of Middle School Year 3, Intervention participants will have undergone either 22 months (September 2021 to July 2023 for those recruited in Year 2) or 34 months (September 2021 to July 2024 for those recruited in Year 1) of treatment by the endpoint of the trial.

4. Children at **Control schools** will receive a glasses prescription and letter to the parents informing them of the refractive status of their child, with free glasses provided only at the end of the trial. No teacher incentive will be offered. Service offered to the Control group exceeds standard care, in that no school-based programs of vision screening and refraction currently exist in the study area, or in most of rural China.

5. Baseline information for students, parents and teachers will be captured in pre-designed questionnaire (Annex 1, 2, and 3)

6. There will be two school-based field surveys (September 2021, September 2022, capturing socio-economic data, spectacle wear compliance, and academic performance and to update glasses power and replace lost/broken glasses as needed) and two telephone surveys (June-July 2023, June-July 2024, to capture high school enrolment status, the main study outcome). Glasses Wearing Status will be captured (Annex 4).

7. **Masking and bias reduction:** Study personnel assessing trial outcomes will be masked as to children's study group assignment, which will be simplified by the fact that there will be participants with and without glasses at both Intervention and Control schools. As noted above, the investigators do not feel that it is ethical in this setting to provide Control participants with placebo treatment (glasses with zero power lenses), but

students, parents and teachers will not be informed of either the overall design of the study or the explicit treatment intervention assignment. Only one school will be selected in each township, minimizing the possibility of cross arm communication and contamination. We will investigate our results for biologic plausibility (larger effect size among children studying in schools and classrooms where blackboards are used), the presence of which would argue against significant placebo effects from the provision of glasses.

8. The spectacle prescriptions of the children will be determined using Technique of Non-Cycloplegic Subjective Refraction in Adolescents, an effective use of fogging, a technique to achieve accurate spectacle prescription. In standard ophthalmic clinic care, we routinely employ cycloplegic agents like cyclopentolate or atropine to paralyse accommodation and provide reliable and repeatable refractions, but in this case, our research carried out in non-clinical settings, children, parents, and schools sometimes object to the blur and discomfort resulting from its use. Thus, this non-cycloplegic subjective refraction can provide results close to cycloplegic refraction. (Annex 5)

9. We will measure the length of the eyeball (axial length) using a biometry measuring device (A-Scan) after applying a drop of topical anaesthetic (proxymetacaine/proparacaine) in the right eye. We will take 3 measurements for each eye and the average value will be used as the final reading. The measurement will be conducted annually by an eye doctor from Zhongshan Ophthalmic Centre.
10. We will measure the participants' depression and anxiety by using Depression Anxiety Stress Scale (DASS), self-esteem by using Rosenberg Self-esteem Scale, emotional and behavioral problems by using the Strengths and Difficulties Questionnaire (SDQ), and quality of life by using Pediatric Quality of Life Inventory™ Generic Core Scales. We will conduct a total of two waves of measurements: one at baseline(SEP 2021) and one at endline 12 month post-treatment (SEP 2022). At baseline prior to school screening, the survey will be administrated to all students in the 120 schools, at endline the survey will be repeated with eligiable students with shortsightedness.

Field Work, Service Delivery and Data management:

Field work will be completed by two teams as follows:

Survey team: This team will implement the survey, conduction vision screening, and secure compliance agreements with the teachers in selected classes at each school. There will 10 teams with 6 members each:

- 1 leader
- 1 assistant
- 2 screeners
- 2 survey administrators

The screeners will screen Year I classes while the survey is completed for Year II classes, and then they will switch. The leader and assistant will oversee this work and secure compliance agreements with the school administrators.

Refraction team: This team will either accompany the survey team or follow one day behind to conduct refractions. There will be ten teams of three members each:

- 2 refractionists
- 1 assistant (to help with paperwork and frame selection)

Annex 6,7 and 8 show the screening, refraction form and examination forms to be used in the study.

Data management:

Data entry from paper forms will be carried out by a trained Data Entry clerk from Shi's team at SXNU (China). All data will be validated and 'cleaned' by the chief study statistician Wen (QUB). The quality control of data will consist of both manual and computerised checks. To ensure the validity and accuracy of the data and to facilitate the data validation process, a visual check of data entered on a database against the original paper/electronic formats will be completed on a random sample and comprehensive edit checks will be organised. Data queries will be generated for missing data and addressed. All essential documents and study records will be version controlled and archived.

QUB, SXNU and ZOC standard procedures for data backup, storage and security will be adhered to. Staff are required to read and follow the relevant security and data usage policies. Paper files (consent forms and relevant questionnaires) will be kept securely in locked filing cabinets in rooms requiring authenticated access in order to gain entry. Access to data will be limited to designated staff only.

QUB and ZOC Research and Governance offices have robust processes for the oversight and governance of research, in particular, research involving human participants. All data used as part of this project will comply with all relevant legal requirements and codes of good practice. Confidentiality and disclosure risk are controlled through the application of information security and data handling policies contained in relevant system level security policies (SLSP). All data will be anonymised and participants' confidentiality maintained throughout. Participants will be allocated a unique ID which will be used to identify all their paper and electronic records. The PI (data custodian) will be responsible for maintaining separate, confidential registers which will match each participant's unique ID with their name. These will be stored securely and separately from other data, with access limited to designated persons. All databases will be designed to ensure completeness, accuracy, reliability and consistency of data. QUB/ZOC policies and procedures ensure that there is no deletion of entered data; a list is maintained of those individuals authorised to make data changes, and all data changes are documented. Quality control measures will be applied to each step in the data management process to assure that the necessary level of data quality is maintained throughout.

The data are held in accordance with the MRC-JISC and ESRC Research Data policies, the Chinese MOH's Regulation on Ethical Review of Biomedical Research Including Human Subjects and QUB and ZOC's Research Governance Policy on management of physical research data and on working with electronic data. Any data held on portable equipment such as laptops, memory sticks or portable hard-drives will be risk-assessed according to the relevant System Level Security Policy (SLSP), taking into account the sensitivity of the information. All data will be transferred to the main data repository where they will be stored on a secure server which is protected against un-authorised access by user authentication and a firewall. All identifiable data will be stored in an encrypted format. A full audit trail will be available to trace the nature of any changes to data, dates of these changes and the person responsible for any changes made. Access to the room where the servers are kept is restricted to designated ZOC IT staff. Daily backup procedures are in place and copies of the data are held in separate locations. A specified group of research staff will have read-only

access to the data files containing confidential information; only the database officer can login and alter the confidential personal data files.

Metadata will be collected as an integral process to a) catalogue and index the data in a searchable manner, b) define the assessment tools (scales, key reference publication, modifications etc), and c) describe the data collection process on an individual basis (age at completion, administration and reminder process, version details).

Electronic and paper data will be stored, within locked filing cabinets and encrypted files on the QUB H drive, for a minimum of 5 years.

Specific policies applying to the data are described in the QUB and ZOC Research Governance policies on management of physical research data and on working with electronic data, and we abide by the ESRC Research Data Policy on personal information in medical research, and the Chinese MOH's Regulation on Ethical Review of Biomedical Research Including Human Subjects.

Identification of individual study participants is the main security risk. Every step will be taken to manage this risk. To minimise the risks associated with this, only named team members will be able to access the raw data files, and all data will be stored in anonymised format, with the exception of the Administrative Database, maintained to facilitate contact with participants. Procedures will include adequate security of data transfer, storage, and working space and will cover technical aspects such as data encryption and password protection.

Consent statement includes: "We agree that the data collected within this study may be shared with other genuine researchers, as set out in the Participant Information Sheet". Any outside organisation wanting to access the data will need to complete a data sharing agreement. Access to data will be according to our data sharing policy. This is in development and will be updated in due course.

Formal Data sharing agreements with the external study members will not be required; however, their agreement to adhere to the study/ESRC/Chinese MOH policies on data security and management, including confidentiality and data protection, will be marked by their signatures at the end of this document. External users will be bound by a data sharing agreement (in development) which will be made available as part of the application to share data on the study website.

The PI is responsible for data management. The study's lead study statistician (Wen, QUB) will be involved on a practical level in data management, metadata creation, data security, and quality assurance of data. The PIs will direct the data management process overall, with the UK RA responsible for ensuring metadata production, day-to-day cross-checks, back-up and other quality control activities are maintained. Congdon's team at QUB will be responsible for routine supervision of the dataset development, and will also be responsible for data extraction, processing and inputting for the dataset. The PI will be ultimately responsible for dealing with quality and sharing and archiving of data.

In terms of copyright clearance, QUB and ZOC shall ensure that their researchers are employed or retained on terms which vest in them sole and exclusive ownership of any copyright and IPR arising from the research project.

Tailored information sheets (Annex 9) and consent forms (Annex 10) will be drafted, based on the sample consent form on p24 of the UK Data Archive Best Practice for Researchers to achieve an informed consent, with adequate information on all aspects of participation and data use to ensure opportunities for sharing research data are not lost.

Measurement of outcomes:

Main outcome:

i. **Attendance at academic high school:** This will be assessed by systematically contacting parents, teachers and students to ascertain enrolment status, which REAP has used to obtain > 97% follow-up in previous studies of high school accession. In the event of inconsistent responses, priority will be given to responses of parents, then teachers and finally students.

Secondary outcomes:

i. **Compliance with spectacle wear:** Main assessment will be based on recording made by actual presence of spectacles on the child's face (rather than having glasses at school) will count as positive compliance for teacher and study personnel assessments, as will self-report of "always" or "only for school" provided by children themselves. For the Control group, and as a check on accuracy of the sensors, direct observation and participant report of spectacle wear will be recorded by study personnel masked to study group assignment at each follow-up examination as outlined above.
ii. **School performance:** This will be assessed through administration of timed, proctored tests administered by study personnel at baseline and then according to the follow up schedule.
iii. **Classroom use of blackboards versus textbooks**: Will be obtained as in our previous studies[4] from teacher reports in the major academic subjects (Maths, Chinese, English).
iv. **Health economics issues:** The primary economic evaluation will use a cost-effectiveness analysis, adopt a societal perspective and confine itself to the trial observation window. Intervention costs will comprise the screening test, glasses (and any replacement thereof) as well as the teacher incentives. Incremental costs will be related to incremental effects measured in terms of the additional proportion of children who enrol in academic school using an incremental cost-effectiveness ratio. Additional analysis will relate incremental costs to incremental mathematic test scores between the intervention and control group. Costs and outcomes will be discounted to reflect their differential timing. As the full benefits of vision correction are unlikely to manifest themselves until several years in the future, a modelling exercise will be used to extrapolate trial results over the expected lifetime of the study participants. In this a cost-utility analysis, a societal perspective will be used. Costs will include the potential savings arising from higher incomes for those who enrol in academic schools as well as the additional costs associated with ongoing screening and replacement of glasses. Quality of life will be assessed using the Pediatric Quality of life Inventory™Generic Core Scales where differences in QoL as assessed during the study will extrapolated over the expected lifetime of the children. Costs and outcomes will be discounted.
v. Mental health outcomes：We will measure the participants' depression and anxiety by using The Depression Anxiety Stress Scale (DASS), self-esteem by using The Rosenberg Self-esteem Scale, emotional and behavioral problems by using the Strengths and Difficulties Questionnaire (SDQ), and quality of life by using Pediatric Quality of Life Inventory™ Generic Core Scales.

Data analysis:

Principal analyses for the main trial will include:

- Adjusted (for major child-, family- and school-level determinants of school attainment including classroom blackboard use) and unadjusted comparison of the difference between study groups in the main outcome, attendance at academic high school after Year 3 of middle school (as opposed to following a vocational pathway or leaving school).
- Adjusted and un-adjusted (except for baseline test score) comparison between groups of performance on the study-specific mathematics test.
- Adjusted and un-adjusted comparison between groups of observed spectacle wear at un-announced examinations at school and for self-efficacy scores. Spectacle wear in the Intervention group will also be assessed by TheraMon sensors.
- Quality of life and health economics analyses as outlined above
- The mean axial length and refraction of children with corrected low levels of short-sightedness of -1.00D to -1.50D in the intervention group to the controls for whom the non-delivery of glasses corresponds to an "under-correction" of -1.00D to 1.5D
- Adjusted and unadjusted comparison of the difference between study groups in the mental health outcomes after Year 1-2 year of intervention

Sub-group analyses include:

- Comparing the effect size on the main outcome between children receiving two vs three years of spectacle wear;
- Comparing the effect size between children falling above vs below the median proportion in recorded wear of spectacles;
- Comparing children stratified on the proportion of classroom teaching in the major subjects using blackboards vs textbooks
- Assessing the effect of the intervention among minority (Hui) vs Han children

Frequency of analyses**:** We propose that an Independent Data Monitoring Committee examine the high school accession rates of children recruited in Year in Summer-Fall 2021. If there is a substantial benefit for this group of students, the possibility of closing the study early and offering all Control students free glasses will be considered. Given its importance to the success of the trial, analyses of the compliance outcome in the Intervention schools will be carried out at 12 and 24 months, so that additional incentives can be added as needed to improve spectacle uptake.

Ethics

Ethical clearance will be obtained from Queen' University Belfast, Ningxia University, Stanford University (REAP's parent organisation) and Zhongshan Ophthalmic Center.

The principal risk to children is failure to receive spectacles to correct their poor vision. No school vision screening programs exist in this part of Ningxia, and our previous studies in western China[4,12] suggest that only 15-20% of children potentially benefitting from glasses will own them. Providing the families of Control participants with prescriptions for glasses and notes detailing their refractive condition delivers a higher level of service than they would otherwise receive, and has been satisfactory to ethics committees in China, the US and the UK during our previous similar trials. All children will receive complete examinations from optometrists at baseline, and those with ocular conditions requiring treatment will be referred to the local county hospital. All Control children will receive free spectacles at the end of the trial, at the completion of their third year of middle school.

This topical anaesthetic medication, proxymetacaine/proparacaine, is used very widely in routine ocular examinations. The risk of injury from a single drop is very low. Long term use of proxymetacaine/proparacaine can cause corneal damage, but this can be avoided by limiting the use to a single clinical encounter. The only contraindication is known allergy to the medication, which is rare. This risk will be reduced by asking participants if they have such a known allergy and avoiding examination in those who respond in the affirmative.

Damage from application of the small probe to the cornea is very unlikely, and infection risk will be reduced by sterilising the probe after each use, as is common clinical practice. With specific regard to coronavirus, which is spread through respiratory pathways, application of a sterilised probe would not be expected to increase risk over that of a routine clinical ophthalmic encounter. Any participant who does complain of discomfort after examination will be reviewed by the examining ophthalmologist and offered any treatment deemed necessary.

Even though the questionnaires are not diagnostic, there might be some questions in the questionnaires that children might find sensitive. If your child complains of discomfort when answering the questions, our trained interviewers will provide on-the-spot counselling to the students. If the discomfort persists, they will be referred to the nearest Tertiary Hospital for further counselling. Parents will also be informed if their child exhibits any signs of distress when answering the questions so they can provide support at home.

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Reference number: 19.25 version 8

Annex 1 **Questionnaire No.:** ☐☐☐☐☐☐☐☐☐☐☐☐

SWISH STUDY NINGXIA

Student Questionnaire

_____City_____County_____Village/Town
_____Junior High School_____ Grade_____ Class

I. Basic Information

	Questions	Alternatives	Answers
1.	What's your name?	**Write in words.**	
2.	What's your gender?	1= Male 2= Female	
3.	How old are you?	Years	
4.	What's your ethnic group?	1= Han 2= Hui 3= Manchu 4= Mongolian 5= Others. Please specify	
5.	What's the type of your registered residence?	1= Countryside 2= Cities and towns 3= Not registered	
6.	How many people are there in your family?	Persons	
7.	How many full elder brothers and sisters do you have? (Refers to those having the same biological parents with you. Fill in 0 in case of no brothers or sisters)	Persons	
8.	How many full younger brothers and sisters do you have? (Refers to those having the same biological parents with you. Fill in 0 in case of no younger brothers or sisters)	Persons	
9.	Where did you live most last semester?	1= At home 2= At school 3= At the relative's house near school 4= Rent a house near school 5= Others. Please specify.	

10. How many semesters have you lived on campus since your first year of junior high school? (Fill in 0 if you do not live on campus)	Semesters	
11. How long does it take you to go from home to school?	Minutes	
12. Have you ever repeated a year?	1= Yes 2= No	

I. Basic Information (Continued)

Questions	Alternatives	Answers
13. How old is your father?	Years old	
14. What's your father's educational background?	1= Not educated 2= Elementary school 3= Junior high school 4= Senior high school or technical secondary school 5= Junior college 6= University and above	
15. Does your father do farm work?	1= Only farm work 2= Only during busy seasons 3= Absolutely not	
16. Did your father live at home most of last semester?	1= Yes 2= No	
17. How old is your mother?	Years old	
18. What's your mother's educational background?	1= Not educated 2= Elementary school 3= Junior high school 4= Senior high school or technical secondary school 5= Junior college 6= University and above	
19. Does your mother do farm work?	1= Only farm work 2= Only during busy seasons 3= Absolutely not	
20. Did your mother live at home most of last semester?	1= Yes 2= No	
21. What's your family's phone number?	Multiple mobile phone or landline telephone numbers can be filled in, separated by commas.	

II. Eye Care Habits*

问题	选项	答案
22. Do your usually do eye exercises?	1= Yes ; 2= No	

III. Current Status of Eyesight

Questions	Alternatives	Answers
23. Did your family take you for an eyesight check?	1= Yes; 2= No	
24. Have you ever taken the eyesight check organized by the school?	1= Yes; 2= No	
25. Do you think you are near-sighted?	1= Yes 2= No 3= Unknown	
26. What do you think is the best solution to myopia?	1= Take balanced diet 2= Have an operation 3= Take medicine 4= Wear glasses 5= Do eye exercises 6= Others. Please specify.	
27. Does anyone in your family wear glasses?	1= Yes 2= No	
28. Do you think glasses look good on you?	1= Yes 2= Ordinary 3= No	
29. Do you have glasses?	1= Yes 2= No (**skip to question no. 32**)	
30. How long have you been wearing glasses?	Years	
31. Do you usually wear glasses?	1= Basically not 2= Yes when studying 3= Often	
32. Why don't you often wear glasses?	1= Not near-sighted 2= Being worried that eyesight will get worse after wearing glasses; 3= Being afraid of being laughed at by others; 4= Planning to fill a prescription when my eyesight gets worse since it is still adequate now; 5= Thinking it inconvenient to wear glasses; 6= Feeling uncomfortable and dizzy when wearing glasses; 7= Others. Please specify.	

IV. Questions on Basic Knowledge about Eyesight (Write 1 for Strongly agree, 2 for Agree, 3 for Have No Idea, 4 for Disagree, 5 for Strongly Disagree)

Questions	Alternatives	Answers
33. Students should have their eyesight regularly checked.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
34. Eye exercises can solve the problem of myopia.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
35. Myopia can be solved by wearing glasses.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
36. Failure to wear glasses after myopia can affect learning.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
37. Glasses are not necessary when myopia diopter is relatively low.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
38. Wearing glasses will make myopia get worse.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
39. The junior high school students shouldn't wear glasses.	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	

V. Status of Refraction and Wearing Glasses

40. When was the last time you have your eyesight checked? In the year of _____.
(If you haven't had your eyesight checked, skip question no. 40 to 47 and go to part VI)

Questions	Alternatives	Answers
41. Where did you have your eyesight checked last time?	1= At hospital 2= At eyeglasses store 3= At school 4= Others. Please specify.	
42. What's the exact place for eyesight check?	1= Local village/town 2= Other village/town in local county 3= Local county seat 4= Other place outside local county seat	

43. Does the check result show the necessity of filling a prescription?	1= Yes 2= No **(skip question no. 44 to 47)** 3= Unknown	
44. Did your family fill a prescription for you?	1= Yes 2= No (**skip to question no. 47**)	
45. Where did you fill a prescription?	1= At hospital 2= At eyeglasses store 3= Others. Please specify.	
46. How much did you spend on the glasses?	1= Below 100 yuan 2= 100 to 199 yuan 3= 200 to 299 yuan 4= 300 to 399 yuan 5= 400 to 499 yuan 6= 500 yuan and above	
47. Why didn't your family fill a prescription for you?	1= The glasses are too expensive; 2= Being worried that eyesight will get worse after wearing glasses; 3= Being afraid of being laughed at by others; 4= Planning to fill a prescription when my eyesight gets worse since it is still adequate now; 5= Thinking it inconvenient to wear glasses; 6= Feeling uncomfortable and dizzy when wearing glasses; 7= Others. Please specify.	

VI. Student psychological test

Part 1: (In the past ONE month, how much of a problem has this been for you, Write 1 for Never, 2 for Almost Never, 3 for Sometimes, 4 for Often, and 5 for Almost Always)

About my health and activities	Never	Almost Never	Some-times	Often	Almost Always
C1. It is hard for me to walk more than one block	☐1	☐2	☐3	☐4	☐5
C2. It is hard for me to run	☐1	☐2	☐3	☐4	☐5
C3. It is hard for me to do sports activity or exercise	☐1	☐2	☐3	☐4	☐5
C4. It is hard for me to lift something heavy	☐1	☐2	☐3	☐4	☐5
C5. It is hard for me to take a bath or shower by myself	☐1	☐2	☐3	☐4	☐5
C6. It is hard for me to do chores around the house	☐1	☐2	☐3	☐4	☐5
C7. I hurt or ache	☐1	☐2	☐3	☐4	☐5
C8. I have low energy	☐1	☐2	☐3	☐4	☐5
C9. I feel afraid or scared	☐1	☐2	☐3	☐4	☐5
C10. I feel sad or blue	☐1	☐2	☐3	☐4	☐5

C11. I feel angry	☐1	☐2	☐3	☐4	☐5
C12. I have trouble sleeping	☐1	☐2	☐3	☐4	☐5
C13. I worry about what will happen to me	☐1	☐2	☐3	☐4	☐5
C14. I have trouble getting along with other teens	☐1	☐2	☐3	☐4	☐5
C15.Other teens do not want to be my friend	☐1	☐2	☐3	☐4	☐5
C16. Other teens tease me	☐1	☐2	☐3	☐4	☐5
C17. I cannot do things that other teens my age can do	☐1	☐2	☐3	☐4	☐5
C18. It is hard to keep up with my peers	☐1	☐2	☐3	☐4	☐5
C19.It is hard to pay attention in class	☐1	☐2	☐3	☐4	☐5
C20. I forget things	☐1	☐2	☐3	☐4	☐5
C21. I have trouble keeping up with my school work	☐1	☐2	☐3	☐4	☐5
C22. I miss school because of not feeling well	☐1	☐2	☐3	☐4	☐5
C23. I miss school to go to the doctor or hospital	☐1	☐2	☐3	☐4	☐5

Part 2: (As Regards to Each Question, Write 1 for Strongly disagree, 2 for Disagree, 3 for Agree, and 4 for Strongly agree)

Item	Strongly disagree	Disagree	Agree	Strongly agree
D1.On the whole, I am satisfied with myself.	☐1	☐2	☐3	☐4
D2.At times I think I am no good at all.	☐1	☐2	☐3	☐4
D3.I feel that I have a number of good qualities.	☐1	☐2	☐3	☐4
D4.I am able to do things as well as most other people.	☐1	☐2	☐3	☐4
D5.I feel I do not have much to be proud of.	☐1	☐2	☐3	☐4
D6.I certainly feel useless at times.	☐1	☐2	☐3	☐4
D7.I feel that I'm a person of worth.	☐1	☐2	☐3	☐4
D8.I wish I could have more respect for myself.	☐1	☐2	☐3	☐4

D9. All in all, I am inclined to think that I am a failure.	☐ 1	☐ 2	☐ 3	☐ 4
D10.I take a positive attitude toward myself	☐ 1	☐ 2	☐ 3	☐ 4

Part 3: (For each item, please mark the box for Not True, Somewhat True or Certainly True.)

Item	Not true	Somewhat true	Certainly true
E1. I try to be nice to other people. I care about their feelings	☐ 1	☐ 2	☐ 3
E2. I am restless, I cannot stay still for long	☐ 1	☐ 2	☐ 3
E3. I get a lot of headaches, stomach-aches or sickness	☐ 1	☐ 2	☐ 3
E4. I usually share with others, for example CD's, games, food	☐ 1	☐ 2	☐ 3
E5. I get very angry and often lose my temper	☐ 1	☐ 2	☐ 3
E6. I would rather be alone than with people of my age	☐ 1	☐ 2	☐ 3
E7. I usually do as I am told	☐ 1	☐ 2	☐ 3
E8. I worry a lot	☐ 1	☐ 2	☐ 3
E9. I am helpful if someone is hurt, upset or feeling ill	☐ 1	☐ 2	☐ 3
E10. I am constantly fidgeting or squirming	☐ 1	☐ 2	☐ 3
E11. I have one good friend or more	☐ 1	☐ 2	☐ 3
E12. I fight a lot. I can make other people do what I want	☐ 1	☐ 2	☐ 3
E13. I am often unhappy, depressed or tearful	☐ 1	☐ 2	☐ 3
E14. Other people my age generally like me	☐ 1	☐ 2	☐ 3
E15. I am easily distracted, I find it difficult to concentrate	☐ 1	☐ 2	☐ 3
E16. I am nervous in new situations. I easily lose confidence	☐ 1	☐ 2	☐ 3
E17. I am kind to younger children	☐ 1	☐ 2	☐ 3
E18. I am often accused of lying or cheating	☐ 1	☐ 2	☐ 3
E19. Other children or young people pick on me or bully me	☐ 1	☐ 2	☐ 3

Item	Not true	Somewhat true	Certainly true
E20. I often volunteer to help others (parents, teachers, children)	☐ 1	☐ 2	☐ 3
E21. I think before I do things	☐ 1	☐ 2	☐ 3
E22. I take things that are not mine from home, school or elsewhere	☐ 1	☐ 2	☐ 3
E23. I get along better with adults than with people my own age	☐ 1	☐ 2	☐ 3
E24. I have many fears, I am easily scared	☐ 1	☐ 2	☐ 3
E25. I finish the work I'm doing. My attention is good	☐ 1	☐ 2	☐ 3

Part 4: (Please read each statement and circle a number 1, 2 , 3 or 4 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.)

Item	Did not apply to me at all	Applied to me to some degree	Applied to me to a considerable degree	Applied to me very much
F1.I found it hard to wind down	☐ 1	☐ 2	☐ 3	☐ 4
F2.I was aware of dryness of my mouth	☐ 1	☐ 2	☐ 3	☐ 4
F3.I couldn't seem to experience any positive feeling at all	☐ 1	☐ 2	☐ 3	☐ 4
F4.I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	☐ 1	☐ 2	☐ 3	☐ 4
F5.I found it difficult to work up the initiative to do things	☐ 1	☐ 2	☐ 3	☐ 4
F6.I tended to over-react to situations	☐ 1	☐ 2	☐ 3	☐ 4
F7.I experienced trembling (eg, in the hands)	☐ 1	☐ 2	☐ 3	☐ 4
F8.I felt that I was using a lot of nervous energy	☐ 1	☐ 2	☐ 3	☐ 4
F9.I was worried about situations in which I might panic and make a fool of myself	☐ 1	☐ 2	☐ 3	☐ 4
F10.I felt that I had nothing to look forward to	☐ 1	☐ 2	☐ 3	☐ 4

F11.I found myself getting agitated	☐ 1	☐ 2	☐ 3	☐ 4
F12.I found it difficult to relax	☐ 1	☐ 2	☐ 3	☐ 4
F13.I felt down-hearted and blue	☐ 1	☐ 2	☐ 3	☐ 4
F14.I was intolerant of anything that kept me from getting on with what I was doing	☐ 1	☐ 2	☐ 3	☐ 4
F15.I felt I was close to panic	☐ 1	☐ 2	☐ 3	☐ 4
F16.I was unable to become enthusiastic about anything	☐ 1	☐ 2	☐ 3	☐ 4
F17.I felt I wasn't worth much as a person	☐ 1	☐ 2	☐ 3	☐ 4
F18.I felt that I was rather touchy	☐ 1	☐ 2	☐ 3	☐ 4
F19. I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	☐ 1	☐ 2	☐ 3	☐ 4
F20.I felt scared without any good reason	☐ 1	☐ 2	☐ 3	☐ 4
F21. I felt that life was meaningless	☐ 1	☐ 2	☐ 3	☐ 4

Reference number: 19.25 version 8

Annex 2 **Questionnaire No.:** ☐☐☐☐☐☐☐☐☐☐☐

SWISH STUDY NINGXIA

Parent/Guardian Questionnaire

_____City_____ County/District _____ Village/Town _____ Junior High School _____ Grade _____ Class

Name of Student: _____

Filling instructions:

1. There are three columns in each table: "questions", "alternatives/units" and "answers". As regards to multiple-choice questions, please fill in the **code** that best suits your situation and thoughts in the column of "answers". As for short-answer questions, you need to write down your answer in the column of "answers".
2. Unless otherwise specified, select only one answer for each question in this questionnaire.
3. Write numbers with digits, such as 1, 2 and 3.
4. If you see characters like “Others. Please specify” in the alternatives of a choice question and they just suit you, please fill in the code and specify them in the column of "answers".

I. Basic Information of Family

Questions	Alternatives/Unit	Answers
1. Which family member are you of the student??	1=Father 2=Mother 3=Grandfather 4=Grandmother 5=Brothers and sisters 6=Others. Please specify.	
2. How many people are there in the student’s family?	Persons	
3. How many laborers are there in the student’s family?	Persons	
4. How many people are working outside in the student’s family?	Persons	
5. What type of house does the student live in now?	1= Without a house ; 2= Cave dwelling ; 3= Adobe house ; 4= Brick-concrete-structured house ;	

	5= Residential building ; 6= Others. Please specify	
6. How much do you think the house the student lives in is worth?	1= Without a house; 2= Less than 5,000 yuan; 3= 5,000 to 10,000 yuan 4= 10,000 to 50,000 yuan 5= 50,000 to 100,000 yuan 6= Over 100,000 yuan	

II. Questions on Basic Knowledge about Eyesight (write 1 for agreeing, 2 for disagreeing, and 3 for having no idea)

Questions	Alternatives/Unit	Answers
7. Students should have their eyesight regularly checked	1= Agree 2= Disagree 3= Have no idea	
8. Eye exercises can solve the problem of myopia	1= Agree 2= Disagree 3= Have no idea	
9. Myopia can be solved by wearing glasses.	1= Agree 2= Disagree 3= Have no idea	
10. Failure to wear glasses after myopia can affect learning	1= Agree 2= Disagree 3= Have no idea	
11. Glasses are not necessary when myopia is relatively low	1= Agree 2= Disagree 3= Have no idea	
12. Wearing glasses will make myopia get worse	1= Agree 2= Disagree 3= Have no idea	
13. The junior high school students shouldn't wear glasses	1= Agree 2= Disagree 3= Have no idea	

III. Current Status of Student Eyesight

Questions	Alternatives/Unit	Answers
14. Did the teacher tell the you about the student's eyesight problem when they communicate?	1=Yes 2= No	
15. Do you think the student is near-sighted?	1=Yes; 2= No; 3=Having no idea	
16. What do you think is the best solution to myopia?	1= Take balanced diet 2= Have an operation 3= Take medicine 4= Wear glasses 5= Take eye exercises 6= Others. Please specify.	
17. Did the student tell you that he/she could not read the words on the blackboard clearly from his/her seat?	1=Yes; 2= No;	
18. Have you had the student's eyesight checked??	1= Yes (**if you choose "yes", you can directly skip to part IV without the need of answering question no. 34**) 2= No	

19. Why didn't you take the student to have his eyesight checked?	1= Having no idea where to check the eyesight 2= Not thinking it necessary since he/she can see 3= Having no spare time 4= Others. Please specify.	

IV. Status of Refraction and Wearing Glasses (Filled by Only the Family Who Have Had Their Child's Eyesight Checked)）

Questions	Alternatives/Unit	Answers
20. When was the last time you have the student's eyesight checked?	Year	
21. Where did you last have the student's eyesight checked?	1= At hospital 2= At eyeglasses store 3= Others. Please specify.	
22. Does the latest eyesight check result show the necessity of fill a prescription?	1= Yes 2= No (**if you choose "No", please skip to part VI.**)	
23. Did you fill a prescription for the student after the last eyesight check?	1= Yes 2= No (**if you choose "No", please skip to part V.**)	
24. Do you know the prescription of the child's eyeglass?	1=Yes ; 2= No	
25. How much did it cost to fill a prescription most recently?	1= Below 100 yuan 2= 100 to 199 yuan 3= 200 to 299 yuan 4= 300 to 399 yuan 5= 400 to 499 yuan 6= 500 yuan and above	
26. How long did it take to fill a prescription (including traffic time) the last time?	Days (write 0.5 if less than half a day))	
27. Does the child often wear glasses after getting the glasses?	1= Basically not 2= Yes when studying 3= Often	
28. What is your opinion on children's wearing glasses?	1= Strongly support 2= Support 3= Whatever 4= Oppose 5= Strongly oppose	

V. Reasons for Not Filling a Prescription after Refraction (Filled by the family Who Didn't Fill a Prescription for the Child After Eyesight Check)

Questions	Alternatives/Unit	Answers
29. Is it the parents/guardians or child who is unwilling to wear glasses?	1=Parents； 2=Child； 3=Both	
30. What's the **leading** reason for not filling a prescription?	1= The glasses are too expensive; 2= Being worried that eyesight will get worse after wearing glasses; 3= Being afraid of being laughed at by others; 4= Planning to fill a prescription when the child's eyesight gets worse since his/her eyesight is still adequate now; 5= it is inconvenient to wear glasses; 6= Feeling uncomfortable and dizzy when wearing glasses; 7= Others. Please specify.	
31. When do you plan to fill a prescription for the child?	1= To be planned later 2= This semester 3= Next semester 4= Junior high school 5= Senior high school	
32. What's your acceptable price range for filling a prescription for the child?	1= Below 100 yuan 2= 100 to 199 yuan 3= 200 to 299 yuan 4= 300 to 399 yuan 5= 400 to 499 yuan 6= 500 yuan and above	

VI. Household Expenses – Education Spending

Questions	Alternatives/Unit	Answers
33.How much did you pay to the school in total for the student last semester?	Yuan	
34. Of which, books and other materials fee (write 0 if not available) is	Yuan	
35. Of which, accommodation fee (write 0 if not available) is	Yuan	
36. Of which, meal fee (write 0 if not available) is	Yuan	
37. How much did you spend on extracurricular tutoring (write 0 if not available) last semester	Yuan	
38.How much subsidy did the student get from the school last semester? (write 0 if not available)	Yuan	

VII. In the past one month, how much of a problem has your teen had with

About your teen' s health and activities (problem with)	Never	Almost Never	Some-times	Often	Almost Always
C1. Walking more than one block	☐1	☐2	☐3	☐4	☐5
C2. Running	☐1	☐2	☐3	☐4	☐5
C3. Participating sports activity or exercise	☐1	☐2	☐3	☐4	☐5
C4. Lifting something heavy	☐1	☐2	☐3	☐4	☐5
C5. Taking a bath or shower by himself or herself	☐1	☐2	☐3	☐4	☐5
C6. Doing chores around the house	☐1	☐2	☐3	☐4	☐5
C7. Having hurts or aches	☐1	☐2	☐3	☐4	☐5
C8. Low energy level	☐1	☐2	☐3	☐4	☐5
C9. Feeling afraid or scared	☐1	☐2	☐3	☐4	☐5
C10. Feeling sad or blue	☐1	☐2	☐3	☐4	☐5
C11. Feeling angry	☐1	☐2	☐3	☐4	☐5
C12. Trouble sleeping	☐1	☐2	☐3	☐4	☐5
C13. Worrying about what will happen to him or her	☐1	☐2	☐3	☐4	☐5
C14. Getting along with other teens	☐1	☐2	☐3	☐4	☐5
C15.Other teens do not want to be his or her friend	☐1	☐2	☐3	☐4	☐5
C16. Other teens tease him or her	☐1	☐2	☐3	☐4	☐5
C17. Not able to do thing other teens his or her age can do	☐1	☐2	☐3	☐4	☐5
C18. Keeping up with my peers	☐1	☐2	☐3	☐4	☐5
C19. Paying attention in class	☐1	☐2	☐3	☐4	☐5
C20. Forgetting things	☐1	☐2	☐3	☐4	☐5
C21. Keeping up with my school work	☐1	☐2	☐3	☐4	☐5
C22.Missing school because of not feeling well	☐1	☐2	☐3	☐4	☐5
C23. Missing school to go to the doctor or hospital	☐1	☐2	☐3	☐4	☐5

VIII. Status of Family Assets

Types of Assets	1= Yes 2= No	Types of Assets	1= Yes 2= No
39. Car		40. Camera	
41. Truck		42. Washing machine	
43. Motorbike or electric bike		44. Air conditioner	
45. Tractor		46. Water heater	
47. Large agricultural implement		48. Gas/LPG kitchen range	
49. Computer		50. Kitchen ventilator	
51. Network		52. Fridge or freezer	
53. TV		54. Flush toilet	

Reference number: 19.25 version 8

Annex 3 **Questionnaire No.:** | | | | | | | | |

SWISH STUDY NINGXIA

Class Teacher Questionnaire

_____City_____ County/District _____ Village/Town

_____ Junior High School _____ Grade _____ Class

1. Personal Basic Information of Class Teacher

Questions	Alternatives/Unit	Answers
1. What's your name?	Write in words	
2. What's your gender?	1= Male 2= Female	
3. How old are you?	years old	
4. What's your ethnic group?	1= Han 2= Hui 3= Tibetan 4= Mongolian 5= Others. Please specify *	
5. Are you shortsighted?	1= No (go to question no. 8) 2= Yes 3= Unknown	
6. Do you have glasses for the myopia??	1= Yes ; 2= No	
7. Do you wear glasses for the myopia?	1= Basically Not 2= Yes when working 3= Often	
8. What's your mobile phone number?	Write in digits	
9. What is your highest education level?	1= Elementary school 2= Junior high school 3= Senior high school 4= Technical secondary school 5= Junior college 6= Undergraduate 7= Postgraduate 8= Others. Please specify	
10. How long have you been working as a teacher?	Years	
11. When did you get your highest education level?	Year	
12. What's your professional title?	1= Elementary 2= Intermediate 3= Sub-senior 4= Senior	

	5= Others. Please specify	
13. Which level is the highest award you have got as a teacher?	1= Above the county level 2= County level 3= Village/town level 4= School level 5= None	
14. How much did you earn in the school last year ?	yuan	
15. hat classes do you teach in this class? (you can choose more than one)	1= Math 2= Chinese 3= English 4= History 5= Physics 6= Biology 7= Chemistry 8= Moral Education 9= Politics 10= Others. Please specify *	
16. How many classes do you have per week in this class?	Classes	

II. Status of Student Eyesight in the Class

Questions	Alternatives/Unit	Answers
17. How many students are there in your class?	Students	
18.How many students live on campus?	Students	
19. How many students are near-sighted in your class?	Students	
20. How many of the near-sighted students in the class have glasses?	Students	
21.How many of the near-sighted students basically don't wear glasses?	Students	
22.How many of the near-sighted students often wear glasses?	Students	
23. What is your opinion on students' wearing glasses?	1= Strongly support 2= Support 3= Whatever 4= Oppose 5= Strongly oppose **	
24. How many students in your class have asked to change their seats because of myopia?	Students	
25. What's the best solution to myopia?	1= Take balanced diet 2= Have an operation 3= Take medicine 4= Wear glasses 5= Take eye exercises 6= Others. Please specify.	
26. Have you ever reminded the students or parents of the eye behavior issues?	1=Never 2= Sometimes 3= Often	
27. Are there any posters or stickers about eyesight preservation in this class?	1= Yes 2= No	
28. Were any lessons or lectures on eye care given in the class?	1= Yes 2= No	

III. Visual Basics Questions (Write 1 for Strongly agree, 2 for Agree, 3 for Have No Idea, 4 for Disagree, 5 for Strongly Disagree)

Questions	Alternatives	Answers
29. Students should have their eyesight regularly checked	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
30. Eye exercises can solve the problem of myopia	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	

31. Myopia can be solved by wearing glasses	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
32. Failure to wear glasses after myopia can affect learning	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
33. Glasses are not necessary when myopia is relatively low.	11= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
34. Wearing glasses will make the myopia get worse	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	
35. The junior high school students shouldn't wear glasses	1= Strongly agree 2= Agree 3= Have no idea 4= Disagree 5= Strongly Disagree	

IV. Personal Basic Information of Math Teacher

Questions	Alternatives	Answers
36. Are you (class teacher) also the Math teacher of this class?	1= Yes (end this questionnaire) 2= No	
37. What's the Math teacher's name?	Write in words	
38. What's the Math teacher's gender?	1=Male 2= Female	
39. What's the Math teacher's gender?	years old	
40. What's the Math teacher's ethnic group?	1= Han 2= Hui 3= Tibetan 4= Mongolian 5= Others. Please specify.	
41. What's the Math teacher's mobile phone number?	Write in digit	
42. What is the Math teacher's highest educational attainment?	1= Elementary school 2= Junior high school 3= Senior high school 4= Technical secondary school 5= Junior college 6= Undergraduate 7= Postgraduate 8= Others. Please specify	
43. How long has the Math teacher been working as a teacher?	Years	
44. When did the Math teacher get his/her highest educational attainment?	Year	
45. What's the Math teacher's professional title?	1= Elementary 2= Intermediate 3= Sub-senior 4= Senior 5= Others. Please specify	
46. Which level is the highest award the Math teacher has got as a teacher?	1= Above the county level 2= County level 3= Village/town level 4= School level 5= None	
47. How much did the Math teacher earn in the school last year?	Yuan	
48. How many Math classes do you have per week in this class?	Classes	

Annex 4

Student ID: ( )

Questionnaire on Glasses Wearing Status of Ningxia Junior High School Students

( ) City ( ) County/District ( ) Village/Town

( ) Junior High School ( ) Grade ( ) Class

Name of student: ( )

I. Glasses Wearing Status

Questions	Alternatives	Answers
1. Did your family take you to any other places for an eyesight check after the check organized by school last September?	1= Yes 2= No	
2. Did your family spend money on prescribing glasses for you after the check organized by school last September?	1= Yes 2= No	
3. Do you have glasses?	1= Yes 2= No	
4. Are the glasses you are wearing bought by your parents?	1= Yes 2= No 3= Without glasses	
5. Do you think glasses look good on you?	1= Strongly agree 2= Agree 3= I'm not sure 4= Disagree 5= Strongly disagree	
6. Do you think wearing glasses will you're your learning?	1= Strongly agree 2= Agree 3= I'm not sure 4= Disagree 5= Strongly disagree	
7. Do you usually wear glasses?	1= Basically not 2= Yes when studying 3= Often	
8. If you don't often wear glasses, why? 9. (**Choose only one answer**)	1= Not shortsighted 2= Being worried that eyesight will get worse after wearing glasses; 3= Being afraid of being laughed at by others;	

	4= Planning to prescribe glasses when my eyesight gets worse since it is still adequate now; 5= Thinking it not convenient to wear glasses; 6= Feeling uncomfortable and dizzy when wearing glasses; 7= Not looking nice after wearing glasses 8= Others. Please specify.	
10. What's your parents' opinion on your wearing glasses?	1= Strongly support 2=Support 3= Whatever 4= Oppose 5= Strongly oppose	
11. Have your parents discussed vision issues with you recently?	1= Yes 2= No	
12. Are any of your good friends near-sighted?	1= Yes 2= No	
13. Do any of your good friends wear glasses?	1= Yes 2= No（Skip to question no. 15）	
14. Do they usually wear glasses?	1= Basically not 2= Yes when studying 3= Often	
15. Do you think the glasses look good on them?	1= Strongly agree 2= Agree 3= I'm not sure 4= Disagree 5= Strongly disagree	

II. Questions on Basic Knowledge about Eyesight (write 1 for agree, 2 for disagree, and 3 for have no idea)

16. Questions	Alternatives	Answers
17. Students should have their eyesight regularly checked.	1= Agree 2= Disagree 3= Have no idea	
18. Eye exercises can solve the problem of myopia.	1= Agree 2= Disagree 3= Have no idea	
19. Myopia can be solved by wearing glasses.	1= Agree	

	2= Disagree 3= Have no idea	
20. Failure to wear glasses after myopia can affect learning.	1= Agree 2= Disagree 3= Have no idea	
21. Glasses are not necessary when diopter of myopia is relatively low.	1= Agree 2= Disagree 3= Have no idea	
22. Wearing glasses will make myopia get worse.	1= Agree 2= Disagree 3= Have no idea	
23. The junior high school students shouldn't wear glasses.	1= Agree 2= Disagree 3= Have no idea	

Annex 5:

Technique of Non-Cycloplegic Subjective Refraction in Adolescents

Underlying concepts:

The starting point in this study is autorefraction performed on subjects. Autorefraction alone, especially in a predominately young and myopic population, frequently results in over-minusing. This study requires accurate refractive data and thus a maximum effort to prevent over-minusing in the subjects.

In standard ophthalmic clinic care, we routinely employ cycloplegic agents like cyclopentolate or atropine to “relax” (actually correctly stated - paralyze) accommodation and provide reliable and repeatable refractions, but in the case of some research projects carried out in non-clinical settings, children, parents, and schools sometimes object to the blur and discomfort resulting from its use. Thus the need for a standardized and effective alternative, careful non-cycloplegic subjective refraction. If done properly, it provides results close to cycloplegic refraction.

Essential to this procedure is the effective use of fogging, a technique to minimize accommodation and over-minusing. Fogging implies the use of additional plus lenses beyond that needed to place the image directly on the retina. Fogging relocates the images to a position in front of both retinas, resulting in blurred distance vision and relaxation of accommodation. Subjective refraction techniques that properly employ fogging minimize the likelihood of over-minusing.

This over-refraction technique has several steps that must be followed carefully after autorefraction measure. The first step is to refine the sphere and then the cylinder of each eye separately. A very important step, too often ignored, is to ensure that accommodation is balanced between the two eyes. This binocular balance step is a bit cumbersome, requiring the use of multiple trial lenses in the frame (or phoropter), and requires the careful attention of both the examiner and the subject. Correct binocular balance is important to guard against prescriptions (and glasses) being uncomfortable for the wearer, thus ending up not being worn.

There are several steps to the process.

1). The first step is to perform autorefraction.

2). Next is to place that prescription in a trial frame or phoropter combined with an additional +2.00D sphere, along with the cylinder and axis found by autorefraction. Make sure the subject now has visual acuity reduced below 20/40 visual acuity (VA) in each eye at distance. If it is not reduced below that, add another +1.00D in front of that eye(s).

3). Now perform subjective spherical over-refraction on the right eye. Reduce the sphere (in the direction of less minus or more plus power) in 0.50D steps until VA improves in steps to 20/25. Ensure that the left eye is constantly blurred throughout this procedure. Repeat on left eye. When both eyes are done, occlude the left eye.

4). Next use the Jackson Cross Cylinder (JCC) to “fine tune” first the power and then the axis of the cylinder of each eye. Have the fellow eye occluded. *(not sure if this needs to be described in detail - will add if necessary).*

5). With the tentative sphere and cylinder determined, next perform a binocular balance test. Place an additional +0.50D sphere in each eye over the tentative sphere derived from the previous Step 4. Next place trial lens or phoropter prisms vertically as follows: 3Δ Base Up OD, 3Δ Base Down OS, while presenting a single 20/30 line of letters. This should now appear to the subject as two vertically displaced and somewhat blurred lines of letters. If there is not vertical diplopia, increase the prism in front of each eye in 1Δ steps until diplopia is recognized. Ask the subject which is better, top, or bottom, or the same, and if not equal, add +0.25D sphere at a time to the clearer eye, until there is equal blur. If the subject is unable to say they are equal, leave slightly more blur on the non-dominant eye.

6). Remove the prisms, returning the subject to single but blurred line of letters. Finally reduce the power on both eyes +0.25D sphere at a time to best corrected distance VA. Stop just before the letters become smaller and darker in size, but not clearer. This is the final endpoint refractive status that is written down.

Reference number: 19.25 version 8

Annex 6

Vision Screening Form

Name of student:

Student ID

Type of accommodation:

1=At home;

2=At school;

3=At the relatives' near the school;

4= Rent a house near the school;

5= Others. Please specify

Part I: Vision Screening

1. Checked on: __Y__M_____D

Uncorrected Visual Acuity (UCVA)	
2. OD	**3.** OS
□6/3	□6/3
□6/3.8	□6/3.8
□6/4.8	□6/4.8
□6/6	□6/6
□6/7.5	□6/7.5
□6/9.5	□6/9.5
□6/12	□6/12
□6/15	□6/15
□6/19	□6/19
□6/24	□6/24
□6/30	□6/30
□6/38	□6/38
□6/48	□6/48
□6/60	□6/60
□6/76	□6/76
□6/96	□6/96
□6/120	□6/120
□6/152	□6/152
□6/192	□6/192
□6/240	□6/240
□< 6/240	□< 6/240

4. Have glasses or not at present?

☐ No, skip to part II

☐ Yes, but not take with him/her, skip to part II

☐ Yes, glasses are taken with him/her (please test his/her eyesight after wearing the glasses):

Visual Acuity After Wearing Glasses	
5. OD	**6.** OS
□6/3	□6/3
□6/3.8	□6/3.8
□6/4.8	□6/4.8
□6/6	□6/6
□6/7.5	□6/7.5
□6/9.5	□6/9.5
□6/12	□6/12
□6/15	□6/15
□6/19	□6/19
□6/24	□6/24
□6/30	□6/30
□6/38	□6/38
□6/48	□6/48
□6/60	□6/60
□6/76	□6/76
□6/96	□6/96
□6/120	□6/120
□6/152	□6/152
□6/192	□6/192
□6/240	□6/240
□< 6/240	□< 6/240

Part II: Inclusion Criteria

7. Included or not

Yes, UCVA of **either eye** ≤ 6/12(0.5) ☐

No ☐

Annex 7

Refraction Form

Name of student: _____ **Student ID** | | | | | | | | | | |

Refraction group ID: _____ **Optometrist:** _____

Part I: Recheck of Visual Acuity

1. Checked on: _____Y____M_____D

Uncorrected Visual Acuity (UCVA)	
2. OD	3. OS
□6/3	□6/3
□6/3.8	□6/3.8
□6/4.8	□6/4.8
□6/6	□6/6
□6/7.5	□6/7.5
□6/9.5	□6/9.5
□6/12	□6/12
□6/15	□6/15
□6/19	□6/19
□6/24	□6/24
□6/30	□6/30
□6/38	□6/38
□6/48	□6/48
□6/60	□6/60
□6/76	□6/76
□6/96	□6/96
□6/120	□6/120
□6/152	□6/152
□6/192	□6/192
□6/240	□6/240
□< 6/240	□< 6/240

4. Have glasses or not at present??

No, skip to part II ☐ Yes ☐

If the student has glasses and takes them with him/her, test his/her eyesight after wearing the glasses:

Visual Acuity After Wearing Glasses	
5. 右眼	6. 左眼
□6/3	□6/3
□6/3.8	□6/3.8
□6/4.8	□6/4.8
□6/6	□6/6
□6/7.5	□6/7.5
□6/9.5	□6/9.5
□6/12	□6/12
□6/15	□6/15
□6/19	□6/19
□6/24	□6/24
□6/30	□6/30
□6/38	□6/38
□6/48	□6/48
□6/60	□6/60
□6/76	□6/76
□6/96	□6/96
□6/120	□6/120
□6/152	□6/152
□6/192	□6/192
□6/240	□6/240
□< 6/240	□< 6/240

Part II: Inclusion Criteria

7. Included or not

Yes, UCVA of **either eye**≤ 6/12(0.5) ☐

No, 10% students with normal VA ☐

Part IV: Refraction

Auto refraction (stick results here)

	S	C	A
OD	**8.**	**9.**	**10.**
OS	**11.**	**12.**	**13.**

Subjective Refraction

	S	C	A	BCVA
OD	**14.**	**15.**	**16.**	**17.**
OS	**18.**	**19.**	**20.**	**21.**

Glasses Prescription

	S	C	A	BCVA
OD	**22.**	**23.**	**24.**	**25.**
OS	**26.**	**27.**	**28.**	**29.**

Axial length

	Average
OD	**33.**

35. Does the student need to fill a prescriptions?

No, end this questionnaire ☐

Yes, continue the test No.36 ☐

36. Pupil Distance：_____mm

Part V: Selection of spectacle frames

37. Spectacle frames no.:

Part VI: if the BCVA is below or equal to_____, the student shall be transferred to the hospital for further check.

38. Does the student need a transfer treatment?

No ☐ Yes ☐

Stick auto refraction results here:

Annex 8

Visual Acuity Reexamination Form

District/County: （ ）

Name of student: （ ）

Type of student: （ ）

1= Amblyopic

2= Glasses-prescribed

3= With low vision but without glasses

4= With normal vision

Whether the amblyopic students have their eyesight checked（）： 1=Yes, 2= No

Name of school: （ ）

Student ID: （ ）

Examination group ID:_____

4. Are **free** glasses available?

☐ No, go to part II

☐ Yes, but not taken, go to part II

☐ Yes, they are taken here (Please test his/her eyesight after wearing the glasses)

Part I: Reexamination of Visual Acuity

1. Checked on:__年(Y)__月(M)_日(D)

Uncorrected Visual Acuity (UCVA)	
2. OD	**3.** OS
□6/3	□6/3
□6/3.8	□6/3.8
□6/4.8	□6/4.8
□6/6	□6/6
□6/7.5	□6/7.5
□6/9.5	□6/9.5
□6/12	□6/12
□6/15	□6/15
□6/19	□6/19
□6/24	□6/24
□6/30	□6/30
□6/38	□6/38
□6/48	□6/48
□6/60	□6/60
□6/76	□6/76
□6/96	□6/96
□6/120	□6/120
□6/152	□6/152
□6/192	□6/192
□6/240	□6/240
□< 6/240	□< 6/240

Visual Acuity After Wearing Glasses	
5. OD	**6.** OS
□6/3	□6/3
□6/3.8	□6/3.8
□6/4.8	□6/4.8
□6/6	□6/6
□6/7.5	□6/7.5
□6/9.5	□6/9.5
□6/12	□6/12
□6/15	□6/15
□6/19	□6/19
□6/24	□6/24
□6/30	□6/30
□6/38	□6/38
□6/48	□6/48
□6/60	□6/60
□6/76	□6/76
□6/96	□6/96
□6/120	□6/120
□6/152	□6/152
□6/192	□6/192
□6/240	□6/240
□< 6/240	□< 6/240

Part II: Refraction

7. Whether refraction is necessary

Yes, UCVA of **either eye** ☐

No, end examination ☐

Part III: Results of Subjective Refraction last September

(Note: the results of students with normal vision are not filled)

	S	C	A	BCVA
OD	8.	9.	10.	11.
OS	12.	13.	14.	15.

Part IV: Results of Refraction Prescription last September

(Note: the results of students with normal vision are not filled)

	S	C	A	CVA
OD	16.	17.	18.	19.
OS	20.	21.	22.	23.

24. Pupil distance: （ ） mm

Part V: Testing Result of Lensometer (Students with Glasses)

	S	C	A
OD	25.	26.	27.
OS	28.	29.	30.

31. Pupil distance: _____mm

32. Is the testing result consistent with that of glasses prescription?

Yes□ Within error range□ No□

Part VI: New Refraction

Auto refraction (Stick the results on the right side and copy the results here)

	S	C	A
OD	33.	34.	35.
OS	36.	37.	38.

Subjective refraction

	S	C	A	BCVA
OD	39.	40.	41.	42.
OS	43.	44.	45.	46.

Glasses prescription

	S	C	A	BCVA
OD	47.	48.	49.	50.
OS	51.	52.	53.	54.

Axial length

	Reading
OD	

55. Do the results show that it is necessary to fill a new prescription?
□ No, end examination
□ Yes, continue to No.56.
□ Original test is correct, but glasses need to be prescribed

56. Pupil distance:_____mm

Part VI: Selection of Spectacle Frames (For students having filled their first glasses prescription only)

57. Spectacle frames no.

Stick auto refraction results here:

Annex 9

Information leaflet for participants

Title: SWISH (See Well to Stay In ScHool: Randomised trial of spectacle distribution to secondary school children with myopia to increase academic high school attendance rates in rural communities)'

Background:

This study aims to determine whether provision of free glasses to children in Ningxia who need them will help with their schoolwork. We will also determine if providing a full description to children will slow down the increase of shortsightedness and improve their mental health well-being. In this study, we will screen the vision of your child, provide them with glasses if they need them and conduct an interview with you and your child.

Trained refractionists will conduct the vision screening and eye examination. The vision screening and eye examination will take about 30 - 40 minutes. The eye examination is not painful and if your child needs glasses, they will be provided free of charge. This examination will NOT require dilation of the pupil with eye drops.

An eye doctor will measure the length of your child's eyeball using a machine after applying a drop of eyedrop in the right eye to prevent the eye from feeling pain before taking the measurements. The measurement will take about 1 to 2 minutes and only be carried out once a year. In order to avoid eye injury and infection, we will sterilise the equipment after each use. If your child feels discomfort after the eye examination, the eye doctor will review your child and will offer your child any treatment that is necessary.

The interview for your child contains a brief assessment of your child's mental health well-being, including depression, anxiety, self-esteem, behaviour and emotional problems. The interview for parents contains a scale to assess your child's quality of life. All the scales have their Chinese version and have been validated and widely used in China. Even though the questionnaires are not diagnostic, there might be some questions in the questionnaires that children might find sensitive. If your child complains of discomfort when answering the questions, our trained interviewers will provide on-the-spot counselling to the students. If the discomfort persists, they will be referred to the nearest Tertiary Hospital for further counselling. We will also inform you if your child exhibits any signs of distress when answering the questions so you can provide support at home.

Your child's participation is entirely voluntary and he/she may withdraw from this research at any time and for any reason, without having to give an explanation. Your child's participation, or non-participation will not affect his/her treatment. The data collected will be treated securely and confidentially as necessary under the Data Protection Act and stored as required by the Queen's University Belfast.

All results, if published, will be treated in an anonymous manner. No one will be identifiable in any data produced from this study. We will inform you of your child's eye examination results. You can contact researchers with any concerns during the study through the email or telephone number included in the leaflet.

Your child can decide not to answer any questions that are asked. However, as our study requires that we ask your child certain questions to do our research, we hope that they will be willing to answer the questions.

If you have any concerns you may ask now, or later. If you wish to ask later, you may contact the following person:

Project manager: Dr. Baixiang Xiao
Email: Xiaobaixiang2006@126.com

Name of Researcher: Prof. Nathan Congdon
Email: ncongdon1@gmail.com
Telephone: +44 7748 751393

Reference number: 19.25 version 8

Annex 10:

Consent Form

Title of the project: SWISH (See Well to Stay In ScHool: Randomised trial of spectacle distribution to secondary school children with myopia to increase academic high school attendacerates in rural communities)

Please initial box

1	I confirm that I have been given and have read and understand the Information Leaflet for the above study. I have had the opportunity to ask, and receive answers to any questions I may have had.	
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	
3	I agree to take part in the above study, inclusive of the interview procedures mentioned in the Information Leaflet.	
4	I understand that my participation or non-participation will not affect my medical care, or my legal rights being affected in any way.	
5	I understand all data will be treated securely as described by Data Protection and stored appropriately as required by the University.	
6	I understand that I will not be identifiable in any data published in relation to this project.	

I agree to take part in this project

Name of Participant	Date	Signature
Name of Person taking consent (if different from Researcher)	Date	Signature
Prof. Nathan Congdon/ Dr. Baixiang Xiao	Date	Signature

Project manager: Dr. Baixiang Xiao
Email: Xiaobaixiang2006@126.com Telephone: +8620 87333209

Name of Researcher: Prof. Nathan Congdon
Email: ncongdon1@gmail.com Telephone: +44 7748751393

One copy for Researcher and one copy for the participant