I. Introduction

Organizations that provide counseling for orphans and vulnerable children face a major obstacle with regards to evaluation: how can the groups know if their programs are improving children's psychosocial wellbeing? Program evaluations would be useful for such organizations in designing interventions and attracting funding. This document provides a framework that seeks to evaluate the efficacy of peer group counseling sessions at relatively low cost. The specific details of the framework provided here are designed to evaluate the peer group counseling sessions run by COPE in Naama, Uganda but the framework could easily be adapted to assess similar programs run by other organizations.

COPE is a youth counseling program that seeks to improve the psychosocial wellbeing of orphaned and vulnerable children (OVC) in Naama. Children participants enroll in the program for one year and have access to COPE's biweekly peer group counseling sessions. The program currently serves over 50 OVC in Naama aged 10-17. Like many other organizations serving OVC, COPE has not been able to evaluate the efficacy of its programs. Information on program efficacy could help the organization attract funding and improve its interventions.

The goal of this evaluative framework is to provide a research design that could investigate the impact of peer group counseling sessions on children's psychosocial wellbeing at relatively low cost. Psychosocial wellbeing will be gauged using a modified strengths and difficulties questionnaire (SDQ). The estimation strategy will then use an individual fixed effects model to test whether improvements in the psychosocial metric that occur with the introduction of counseling sessions are significantly larger than the improvements that occur naturally.

The remainder of this document is organized as follows. Section II explains the data collection process and Section III details the estimation strategy. The outcome variable, independent variable, and control variables are explained in Sections IV, V, and VI, respectively.

II. Data Collection

The data for this evaluation will be collected by research teams working with COPE. Data collection will occur in four stages:

1. Stage 1: Identification of child participants (one month)

   To begin, COPE will identify children who are targeted for the program and are willing to participate in the evaluation. The evaluation must enroll as many such participants as possible to maximize statistical power. During this stage, researchers will also work with each child participant to decide where and how the child's periodic assessment will be held. Some children may wish to be assessed at home while others may prefer to meet at a community center. Similarly, certain children would want to fill out the survey on paper while others would rather respond to questions in an interview format.

2. Stage 2: Baseline data collection (six months)

   Following the one-month period of participant identification, researchers will collect baseline data. This information will be collected every three months over a six-month period before COPE's peer-group sessions begin. Each assessment will gauge children's psychosocial wellbeing as well as other child and household characteristics. The indices to be tracked will be detailed in subsequent sections and the questionnaires to be used in these assessments can be found in Appendices 1 and 3.

3. Stage 3: Intervention period (one year)

This stage will coincide with COPE's peer group counseling sessions. Researchers will continue to assess children every three months on the same dimensions as in Stage 2 but will also record children's attendance at peer group counseling sessions. A sample sign-in sheet that can be used to track attendance at each session can be found in Appendix 2.

4. Stage 4: Endline data collection (six months)

   Evaluators will continue to track children every three months for six months after the peer group sessions have ended. These assessments will follow the same format as those in Stage 2.

Data collection will take a total of twenty-five months. Children will be assessed every three months for twenty-four of those months. COPE's peer group counseling sessions will occur between the seventh and nineteenth months. Thus the final dataset will contain a baseline plus eight additional assessments for each child, four of which follow three-month periods of exposure to COPE's sessions.

III. Empirical Specification

An ideal research design would involve randomly assigning children to one of two groups: an experimental group with access to COPE's peer group sessions and a control group without access. Due to the nature of the intervention, this strategy would require randomizing at the village level to avoid contamination across experimental arms. Unfortunately, random assignment by village would be resource intensive and not feasible for many small-scale organizations like COPE.

In the absence of a valid control group, the evaluation will use an individual fixed effects model. The major concern with a simple pre-post design is the impossibility of distinguishing improvements in individuals' psychosocial wellbeing that happen due to COPE from improvements that happen naturally over time. Hence the evaluation will measure psychosocial wellbeing for several months prior to and following the intervention. This design will identify changes in children's psychosocial wellbeing that might occur naturally and test whether changes that occur with exposure to COPE are significantly larger than these natural changes.

While this design will implicitly control for any factors that are fixed at the level of the individual child, it does not account for time-variant confounds. Hence, an n-dimensional vector, $\vec{X}$, of time-variant controls must be added to the estimating equation. The specification will take the form:

$$\Delta PSW_{t-1,t;i} = \beta_0 + \sum_k \beta_{1,k} COPE_{t-1,t;i} + \sum_n \beta_{2,n} X_{t-1,t;i} + \mu_i + \varepsilon_{t-1,t;i}, \quad (1)$$

where $t \in [1, \dots, 8]$ corresponds to an observation period separated from t-1 by three months; where $\Delta PSW_{t-1,t;i}$ represents the change in psychosocial wellbeing of child i between periods t and t-1; where $\overrightarrow{COPE}$ is a k-dimensional vector of independent variables representing child i's exposure to COPE's peer group sessions over the period; and where $\vec{X}$ is the n-dimensional vector of time-variant control variables.

IV. Outcome Variable

The outcome variable for evaluation will be derived from the Strength and Difficulties Questionnaire (SDQ). The SDQ is used in clinical assessment and research to gauge children's psychological wellbeing (Goodman et al, 2000). As it demonstrates reliability and validity (Goodman, 2001; Muris et al, 2003), is relatively short, and available online at zero cost (youthinmind, n.d.), it is a feasible outcome measure for the evaluation framework.

The SDQ is available in modified forms for various age groups but, given the age of children participating in COPE's group sessions, this evaluation will use the questionnaire for children aged 11-17. SDQ assessments include twenty-five questions, each of which asks children to agree, disagree, or remain neutral when asked whether a particular feeling or behavior occurs frequently in their lives. The twenty-five questions are divided into groups of five questions. Each group addresses one of five dimensions of children's psychological wellbeing: emotional problems, conduct problems, hyperactivity and inattention problems, peer relationship problems, and prosocial behavior (youthinmind, n.d.). The three responses to each of the twenty-five questions are then assigned values between 0 and 2. The SDQ difficulties metric for an individual child is obtained by summing the numerical values corresponding to his or her responses.

This evaluation will make three modifications to the original SDQ for children aged 11-17 to produce an outcome variable. First, because COPE's programs are not directly targeted at improving children's prosocial behavior or hyperactivity and inattention problems, the evaluation will exclude these two SDQ dimensions. That is, the evaluation will employ questions from only three of the five dimensions: emotional problems, conduct problems, and peer relationship problems. Second, the evaluation will allow children to rank agreement to statements on a 0-4 scale rather than a 0-2 scale. This modification will allow for greater heterogeneity in responses. And finally, to accommodate the 0-4 scale, the questionnaire will ask children to respond to questions by reporting how often a particular behavior occurs rather than whether they agree that a particular behavior occurs frequently. For example, the SDQ asks children whether it is not true, somewhat true, or certainly true that "[they] worry a lot" (youthinmind n.d.); the questionnaire employed here will ask children whether "[they] feel worried" never, rarely, at times, often, or always.

These modifications introduce a limitation with regards to the outcome variable: average levels of and changes in psychosocial difficulty in the sample will not be comparable to those of other studies that use the SDQ. However, the goal of this evaluation is not to diagnose mental illness or to compare psychosocial wellbeing to other settings but rather to track changes in psychosocial wellbeing in a single setting. Hence the evaluation will employ the modified SDQ with the caveat that average difficulty values are not comparable to those of other surveys. The analysis must focus on the statistical significance of changes in psychosocial difficulty as opposed to the magnitude of those changes.

Overall psychosocial wellbeing will be measured by summing numerical values corresponding to each question. As there are fifteen responses valued between 0 and 4, the outcome for evaluation will range between 0 and 60, where 60 represents severe psychological difficulty and 0 represents psychological wellbeing. The questionnaire, responses, and corresponding scores can be found in Appendix 1.

Psychosocial wellbeing will be measured every three months for the entire two-year period over which the evaluation will occur. Thus each child will have nine psychosocial scores and those scores will be separated from one another by periods of three months. Three month intervals are sufficiently frequent to facilitate a multiple baseline design but sufficiently infrequent to prevent children from memorizing, anticipating, and preparing responses to the questionnaire. Hence the outcome variable $\Delta PSW_{t-1,t;i}$ is more precisely defined as:

$$\Delta PSW_{t-1,t;i} = SDQm_{t,i} - SDQm_{t-1,i}, \quad (2)$$

where $SDQm_{t,i}$ represents the difficulties measure from the modified SDQ for child i in period t.

V. Independent Variable

COPE's peer group session will be introduced sixth months after the evaluation begins and will continue for one year thereafter. Children's exposure to the counseling sessions will be represented in the k-dimensional vector $\overrightarrow{COPE}$. This vector will include the following three variables:

1. $COPE_{t-1,t;i}$
2. $\frac{num\_COPE_{t-1,t;i}}{6}$
3. $\begin{cases} \frac{\sum_3^t num\_COPE_{t-1,t;i}}{6(t-2)} \; if \; t \in [3, \ldots, 8] \\ 0 \; if \; otherwise \end{cases}$

The first two variables represent exposure to COPE's peer group counseling sessions in the three month period that separates t and t-1. The first is an indicator that takes the value of 1 if child i attended at least one session over the period and 0 if not. This variable will be used to gauge the level effect of exposure. The second variable accounts for degree of exposure and is calculated by dividing the number of sessions child i attended over the three month period by the total number of sessions that were offered. Division by the total number of sessions means that the coefficient on this variable will represent the difference between attending no sessions and attending all sessions; thus it will be comparable in magnitude to the coefficient on the first.

The third variable is calculated in each period t by summing the number of sessions child i have ever attended and then dividing by the total number of sessions that have occurred. This variable allows for the possibility that changes in psychosocial wellbeing between t-1 and t depend on exposure to COPE's sessions before t-1. The inclusion of this variable in a regression with one or both of the first two independent variables accounts for the fact that children might stop attending sessions in later periods if their psychosocial wellbeing has already improved due to attendance in earlier periods.

The evaluation will estimate separate specifications for each subset of these three variables and their squares. The significance and magnitude of coefficients on these variables will provide information on the effect of COPE's sessions. Comparisons of coefficients on the various independent variables will provide information on the nature of that effect.

Information on COPE exposure will be obtained through biweekly peer group session sign-in sheets. A sample sign-in sheet can be found in Appendix 2.

VI. Control Variables

While fixed effects control for selection biases that are fixed at the level of the individual child, they do not control for time-variant confounds. In particular, $\vec{X}$ includes:

Time-variant controls at the child level:

- Age in months at time t
- Change in self-reported physical health status between periods t-1 and t
- An indicator for having attended school between periods t-1 and t
- An indicator for having worked for wage outside of the home between periods t-1 and t

Time-variant controls at the household level:

- Change in household size between periods t-1 and t
- Change in the number of guardians between periods t-1 and t
- Change in the number of guardians with HIV/AIDS or another serious illness between periods t-1 and t

- Change in the number of household members earning incomes outside of the home between periods t-1 and t

Other time-variant controls:

- An indicator for drought or other adverse agricultural shocks between periods t-1 and t
- Indicators for season at period t
- Average number of children present at COPE's peer group counseling sessions between periods t-1 and t

Data on average peer group session size will be recorded through the attendance logs mentioned above and data on the season at period t will be recorded by the research team. The remainder of the information will be elicited through the child survey provided in Appendix 3.

References

Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry, 40(11),* 1337-1345.

Goodman, R., T. Ford, and H. Simmons (2000). Using the strengths and difficulties questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *The British Journal of Psychiatry, 177,* 534-539.

Muris, P., C. Meesters, F. van den Berg (2003). The strengths and difficulties questionnaire (SDQ). *European Child & Adolescent Psychiatry, 12(1),* 1-8.

Youthinmind (n.d.). Information for researchers and professionals about the strengths & difficulties questionnaire. Retrieved from http://www.sdqinfo.org.

Appendix 1: Questionnaire and Scoring for Assessing Children's Psychosocial Wellbeing

(Adapted from the SDQ for children aged 11-17, accessed at http://www.sdqinfo.org)

QUESTIONNAIRE

	Never	Rarely	At times	Often	Always
Emotional Symptoms Scale					
I get headaches, stomach-aches, or sickness	0	1	2	3	4
I feel worried	0	1	2	3	4
I feel unhappy, downhearted, or tearful	0	1	2	3	4
I feel nervous in new situations	0	1	2	3	4
I feel scared	0	1	2	3	4
Conduct Problems Scale					
I get very angry and lose my temper	0	1	2	3	4
I do as I'm told	4	3	2	1	0
I fight with those around me	0	1	2	3	4
I am accused of lying or cheating	0	1	2	3	4
I take things that are not mine	0	1	2	3	4
Peer Problems Scale					
I spend my time alone	0	1	2	3	4
I feel that I have one good friend or more	4	3	2	1	0
I feel that other people my age like me	4	3	2	1	0
Other children or young people pick on me	0	1	2	3	4
I get along better with adults than people my age	0	1	2	3	4

SCORING

A child's score is obtained by summing the numerical values assigned to each of his or her responses.

Note: This questionnaire must be translated to conform to local languages, dialects, and cultural norms before use.

Appendix 2: Sign-in Sheet

Date	First Name	Last Name

Note: This sheet must be translated to conform to local languages, dialects, and cultural norms before use.

Appendix 3: Child Survey
Name: _____(first) _____(last)

1. When were you born?
   _____ (month); _____ (day); _____ (year)

2. On a scale of 1-5, with 1 being poor and 5 being excellent, how would you rate your overall physical health in recent weeks?
   1 2 3 4 5

3. Did you attend school in the past three months?
   Yes No

4. Did you work outside of the home in the past three months?
   Yes No

5. How many people live in your household?
   _____

6. How many guardians live in your household?
   _____

7. How many of your guardians have HIV/AIDS?
   _____

8. On a scale of 1-5, with 1 being poor and 5 being excellent, how would you rate the overall physical health of your household members in recent weeks?
   1 2 3 4 5

9. How many of your household members currently earn incomes outside of the home?
   _____

10. Have there been any unusual weather patterns in the past three months that affected your household's agriculture? If so, what type of weather? (Unusual weather patterns may include drought, heavy rains, pestilence, etc.)
    Yes No
    Explanation: _____

Note: This questionnaire must be translated to conform to local languages, dialects, and cultural norms before use.