# 2023 EVALUATIONS

STRONGMINDS®

# StrongMinds' 2023 Evaluations

*June 26, 2024*

## Summary

This report shares the results of the 2023 pre-post evaluations of StrongMinds clients. Clients were measured pre-treatment by their counselors, and post-treatment by independent surveyors. One survey was conducted two-weeks post-therapy for a sample of clients in Cycle 3, and another survey was done six-months post-therapy for clients in Cycle 1.

Main results:

- PHQ-9:
  - 15.1 pre-treatment to 3.1 two-weeks post-treatment
  - 15.9 pre-treatment to 3.8 six-months post-treatment
- Symptom reduction:
  - 11.9 point reduction two-weeks post-treatment
  - 12.1 point reduction six-months post-treatment
- Depression-free (minimal depression)
  - 74% two-weeks post-treatment
  - 66% six-months post-treatment
- Functioning difficulty: % saying depressive symptoms make it "very" or "extremely difficult to carry out daily functions
  - 70% pre-treatment to 7% two-weeks post-treatment
  - 57% pre-treatment to 3% six-months post-treatment
- Subjective well-being
  - Clients evaluated their life as about 7 out of 10 post-treatment, well above national averages

Secondary indicator results are also shared, as well as an additional deeper analysis by age group for selected indicators.

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# Introduction and methods

This report summarizes the results of two pre-post evaluations conducted in 2023 in Uganda and Zambia.

The main outcomes measured include:

1. Depressive symptom related
    a. Average PHQ-9 scores
    b. PHQ-9 score change from pre-treatment to post:
        i. Average
        ii. Percentage with a 5-point or greater change
        iii. Percentage with a 10-point or greater change
    c. % of clients that are depression-free (PHQ-9 post treatment)

2. Well-being
    a. Functioning difficulty
    b. Subjective well-being

3. Secondary indicators (too many to list)

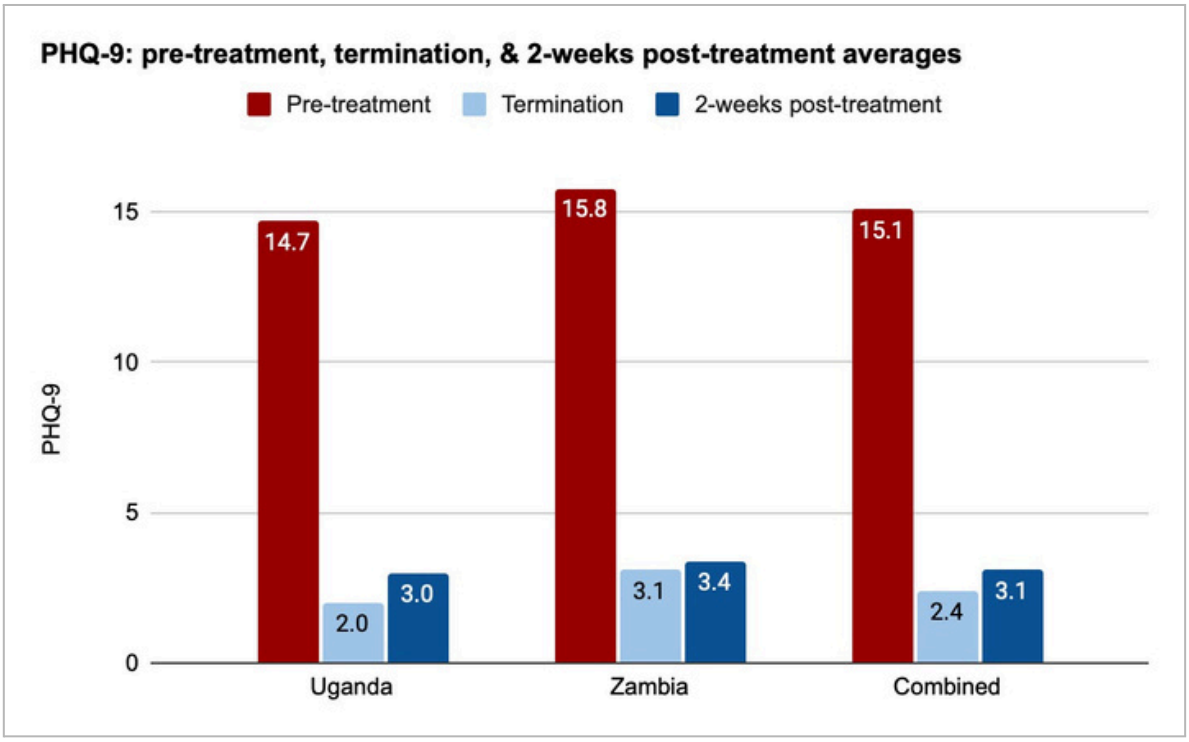
Prior to treatment, StrongMinds counselors collected data from all clients in one on one interviews. The same counselors collected data in the final treatment session, known as "termination". This data includes depressive symptoms data via the PHQ-9, as well as functioning difficulty. A sample of clients treated in Cycle 1 were followed up with *six-months* post-therapy in both countries. And in the other evaluation, a sample of clients treated in Cycle 3 were follow-up with *two-weeks* post therapy. Independent surveyors or psychologists[1] conducted these one on one interviews for the sampled clients. This data includes all of the outcomes mentioned above.

[1] We started with surveyors but have since decided to use psychologists when possible, as they are better trained in diagnosing depression.

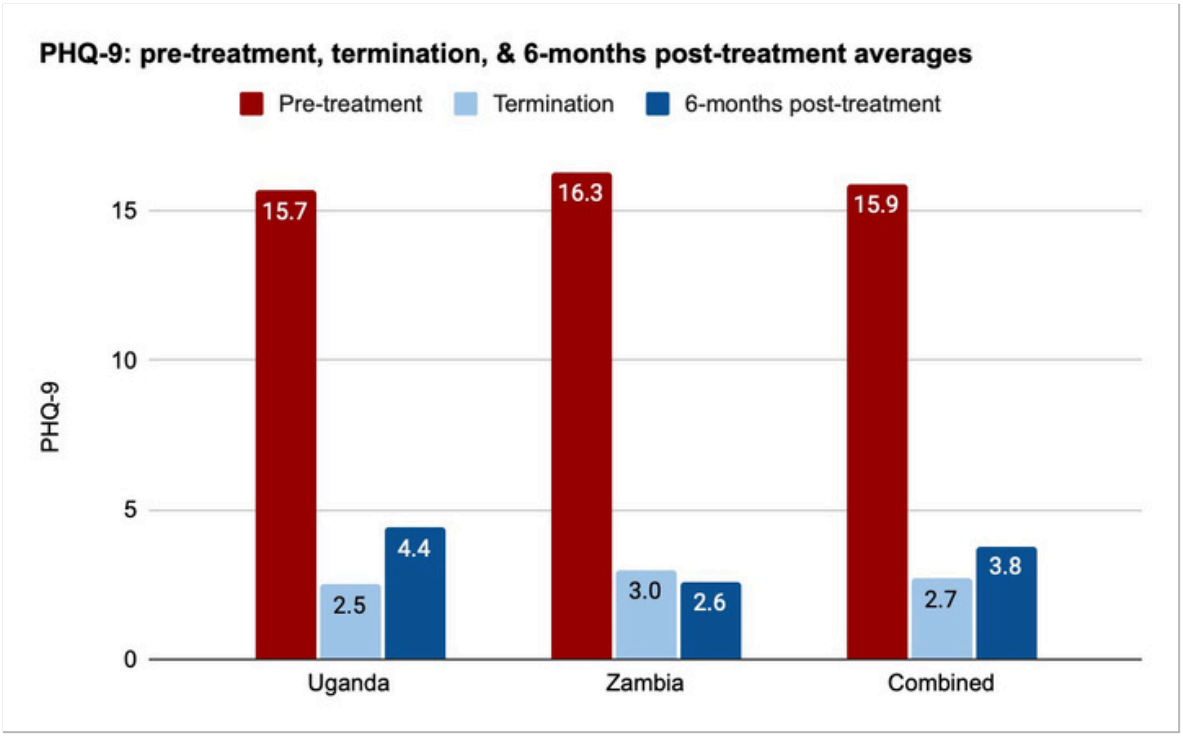
# Main Results

## Depressive symptoms

*Two-weeks post-treatment (Cycle 3)*
As shown in the graph below, both Uganda and Zambia saw large reductions in depressive symptoms from before to two-weeks after treatment. Combining the data, on average StrongMinds clients scored 15.1 pre-treatment (at the threshold of moderate and moderately severe), and 3.1 two-weeks post treatment (minimal depression).



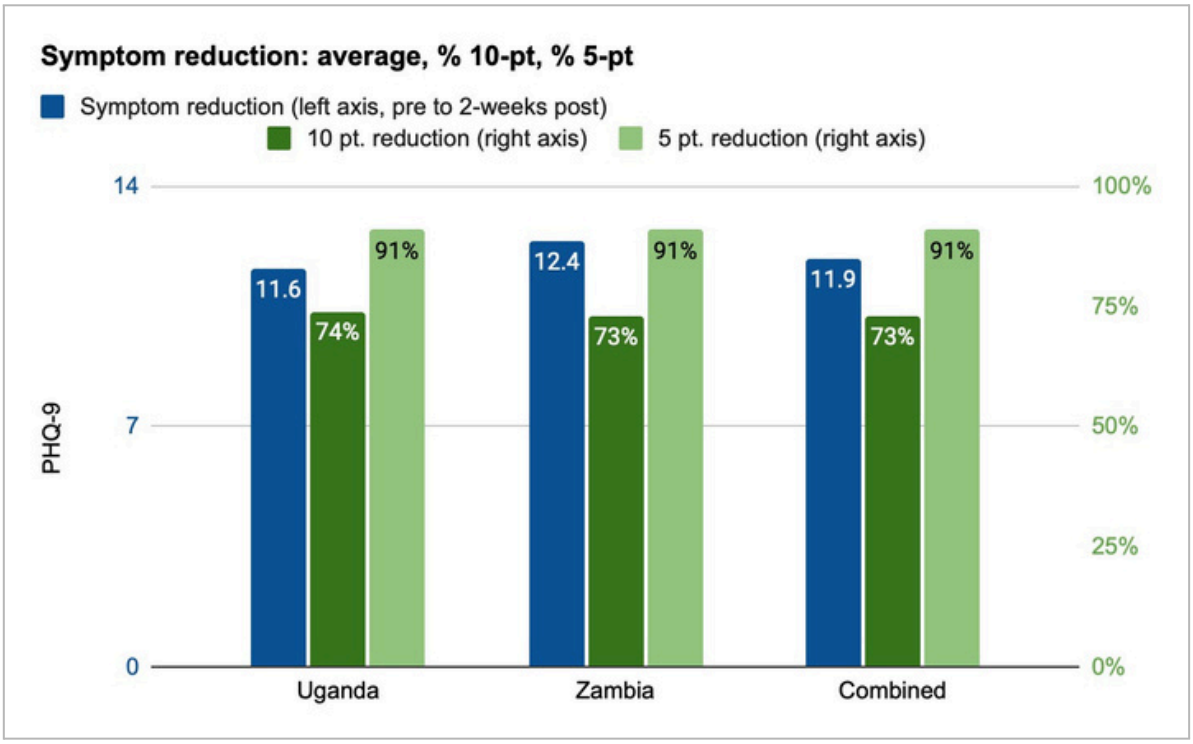

*Six-months post-treatment (Cycle 1)*
The results six-months post-treatment are similar to the two-week results, as shown below. Unfortunately they do not track the same individuals who were followed-up with two-weeks post, as for practical reasons this data is from a different treatment cycle. The combined pre-treatment average was slightly higher at 15.9 than for the two-week evaluation, and the six-month post average was also higher, at 3.8. Uganda was notably higher than Zambia, at 4.4 vs. 2.6. While we are using the same instruments and methods across countries, comparing across different cultural contexts and languages is difficult, so assume some margin of error in these data.



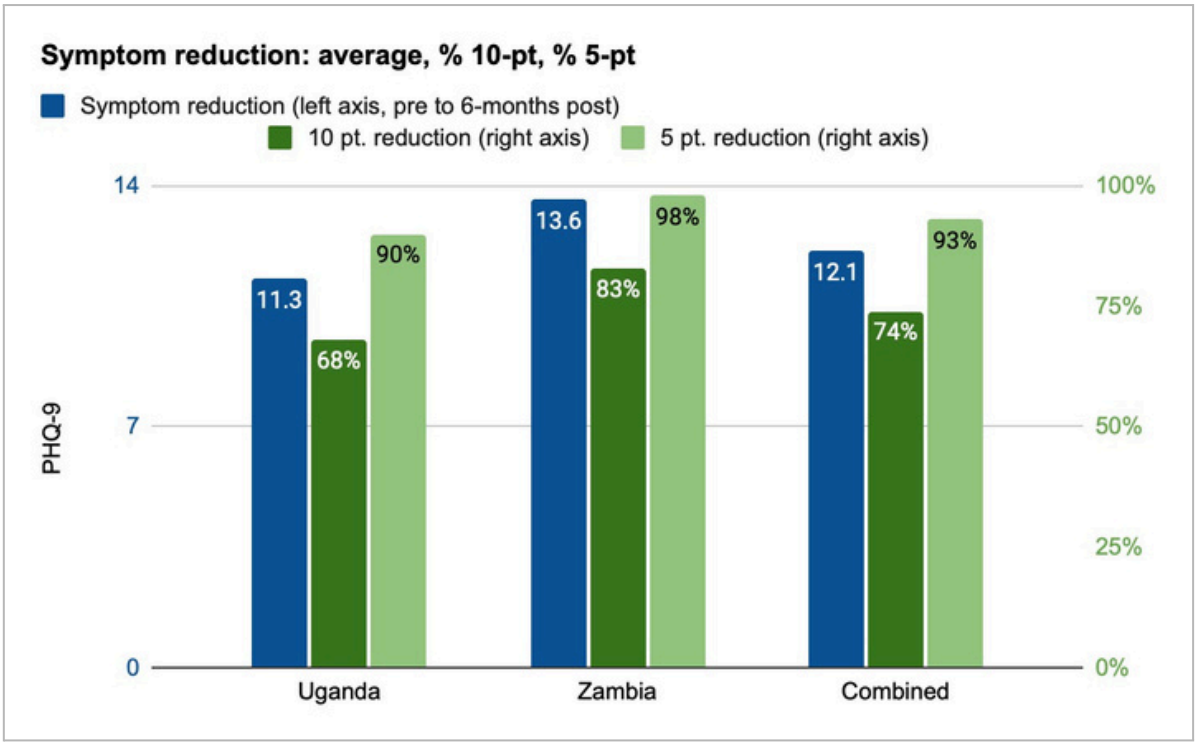

## Symptom reduction

*two-weeks post-treatment (Cycle 3)*

In both countries, two weeks after treatment the average symptom reduction score was about 12 points on the PHQ-9 scale, as shown in the graph below. About nine of every ten clients (91%) experienced a 5-point or greater reduction, and about three out of four clients (73%) had a 10-point or larger reduction.

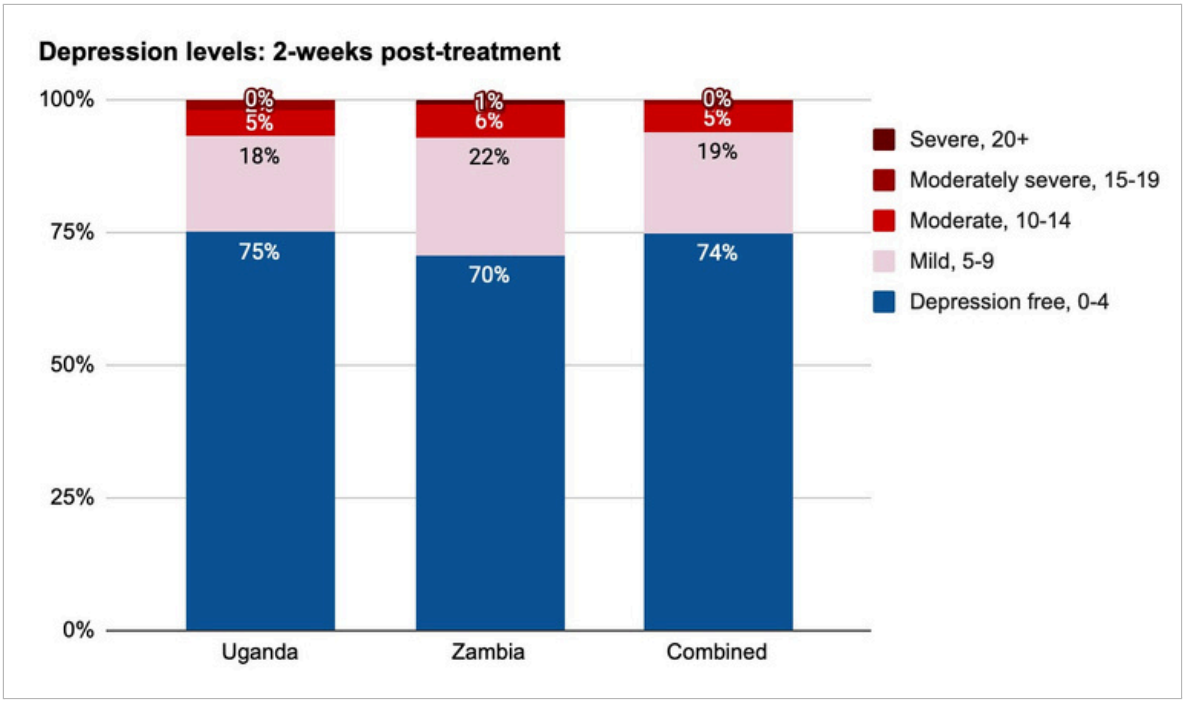


*Six-months post-treatment (Cycle 1)*
The six-month post-treatment symptom reduction results are similar to the two-week results when combining data from both countries, as shown in the graph below. On average, clients reduced depressive symptoms by 12.1 points, with 93% by at least 5 points, and 74% by at least 10 points. Zambia saw larger reductions in depressive symptoms than Uganda, and accordingly higher shares of people with 5- and 10-point improvements.



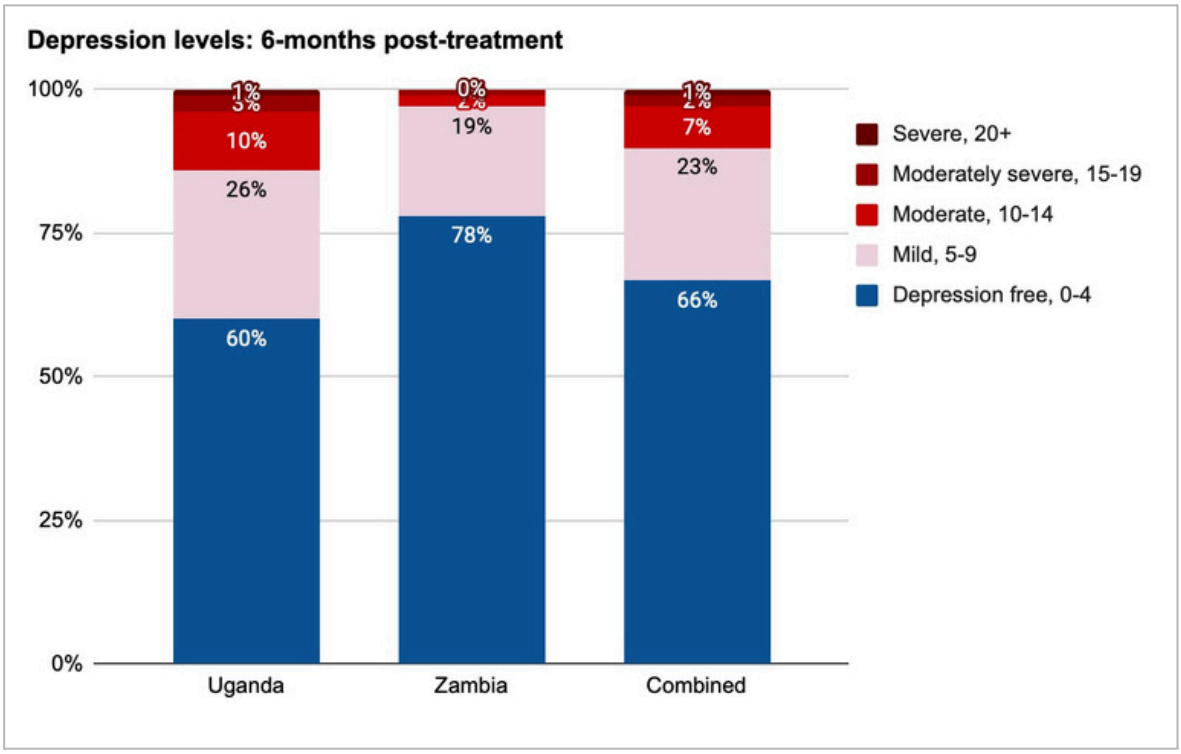

## Depression levels

*Two-weeks post-treatment (Cycle 3)*
The combined data for both countries shows that 74% of clients were “depression-free” (PHQ-9 less than 5 points) two-weeks after treatment, as seen below. Uganda appears to be slightly higher than Zambia.




*Six-months post-treatment (Cycle 1)*

The share of clients that were depression-free six-months after therapy (66%) was somewhat lower than two-weeks post (74%), which is expected, when combining the data from both countries. Zambia (78%) was noticeably higher than Uganda (60%), and also higher than Zambian clients two-weeks post (70%). Again these are different cohorts, so results can differ.

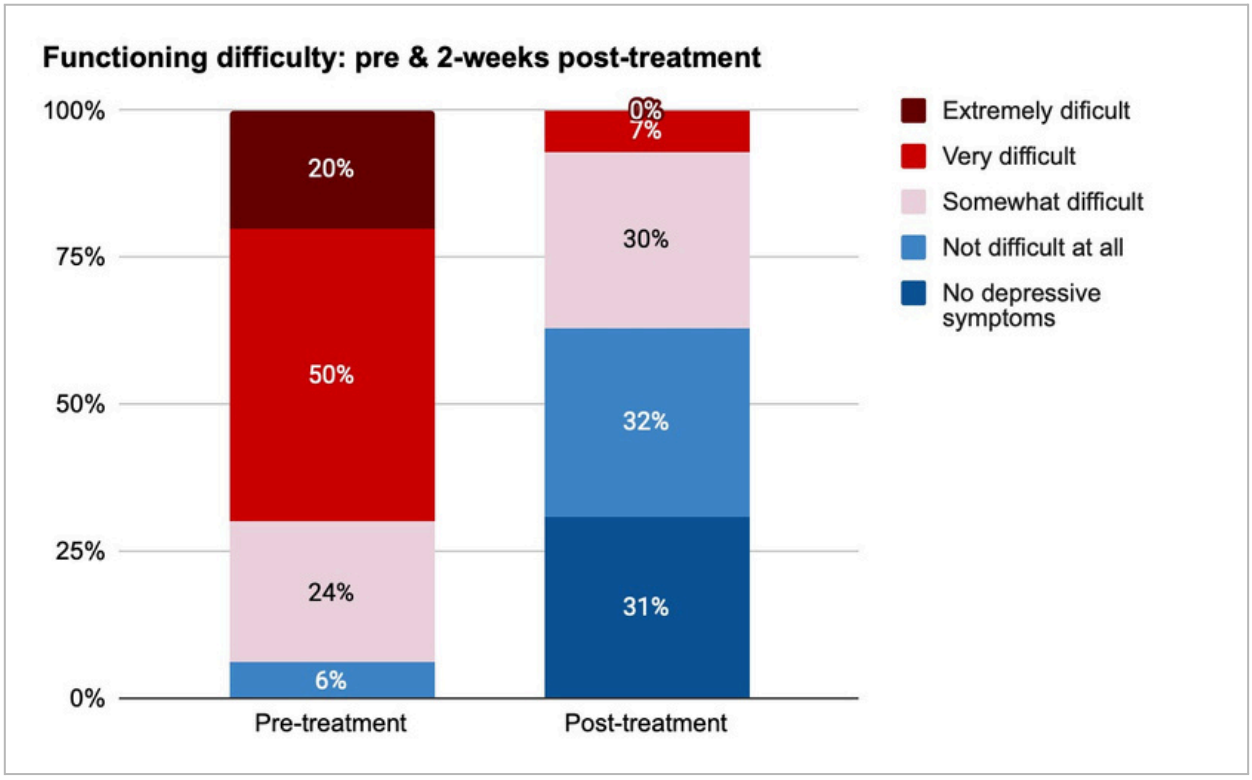


# Functioning difficulty

*Survey question: "How difficult have your depressive symptoms made it for you to do your work, take care of things at home, or get along with other people?"*

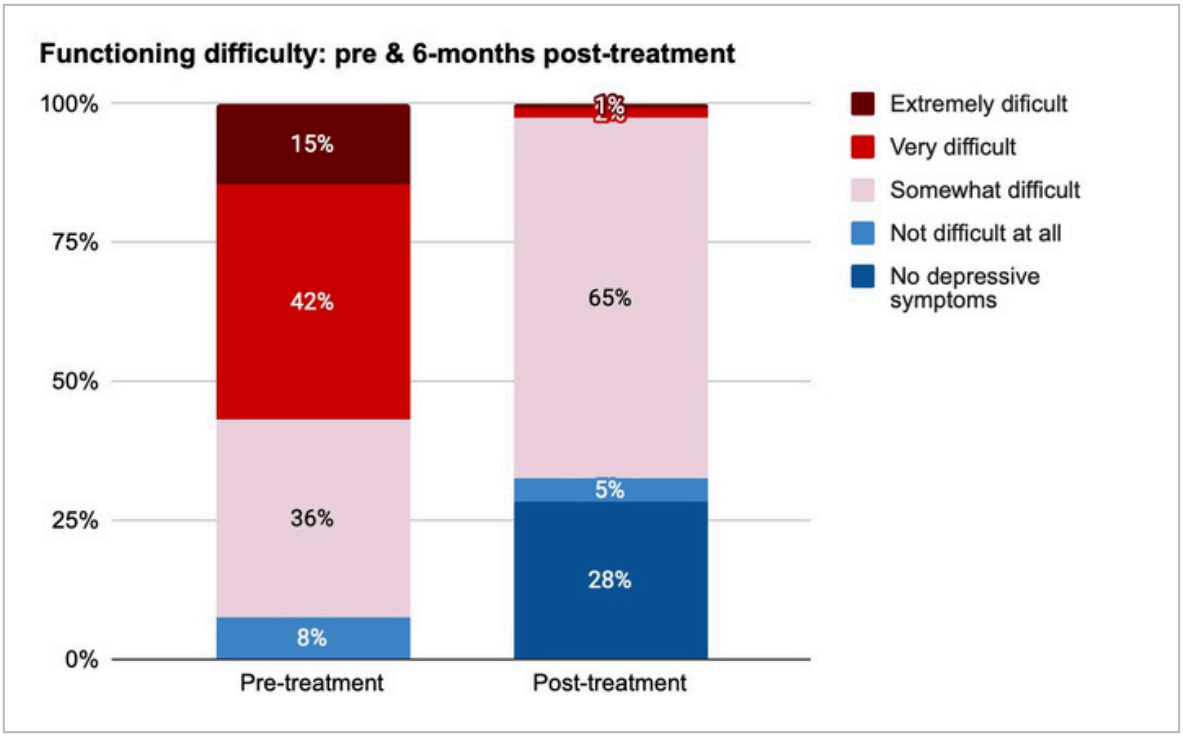
*Two-weeks post-treatment (Cycle 3, Uganda only)*

There was a large improvement in how difficult clients found daily functioning from before to two-weeks after therapy. 70% said they found it “very” “or extremely” difficult before treatment, but only 7% said that post treatment, as seen below..




*Six-months post-treatment (Cycle 1, Uganda only)*

The six-month post results are similar to the two-week results, as seen below. Overall, functioning difficulty was not quite as bad with this cohort pre-treatment, with 57% responding “very” or “extremely”. This share fell to 3% six-months after treatment, however there was a larger share of those saying “somewhat” difficult six-months post (65%) as compared to two-weeks post (30%).



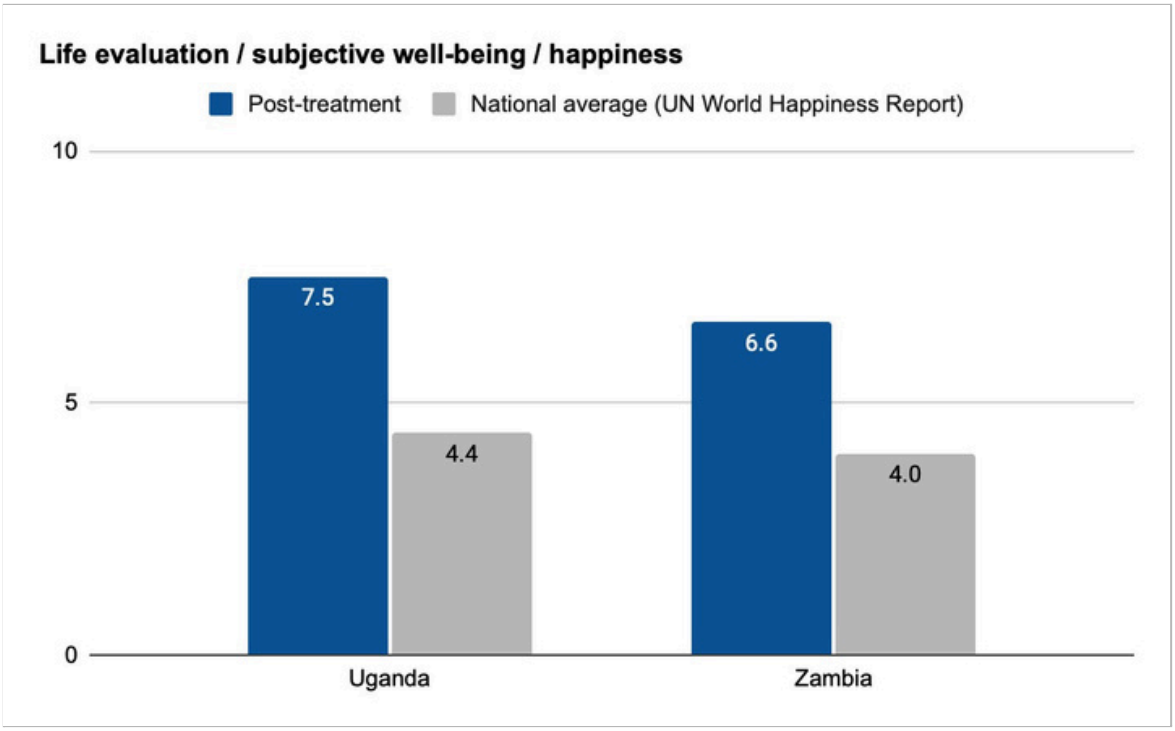

## Subjective well-being

*Survey question: "Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"* [2]

*Two-weeks post-treatment (Cycle 3)*

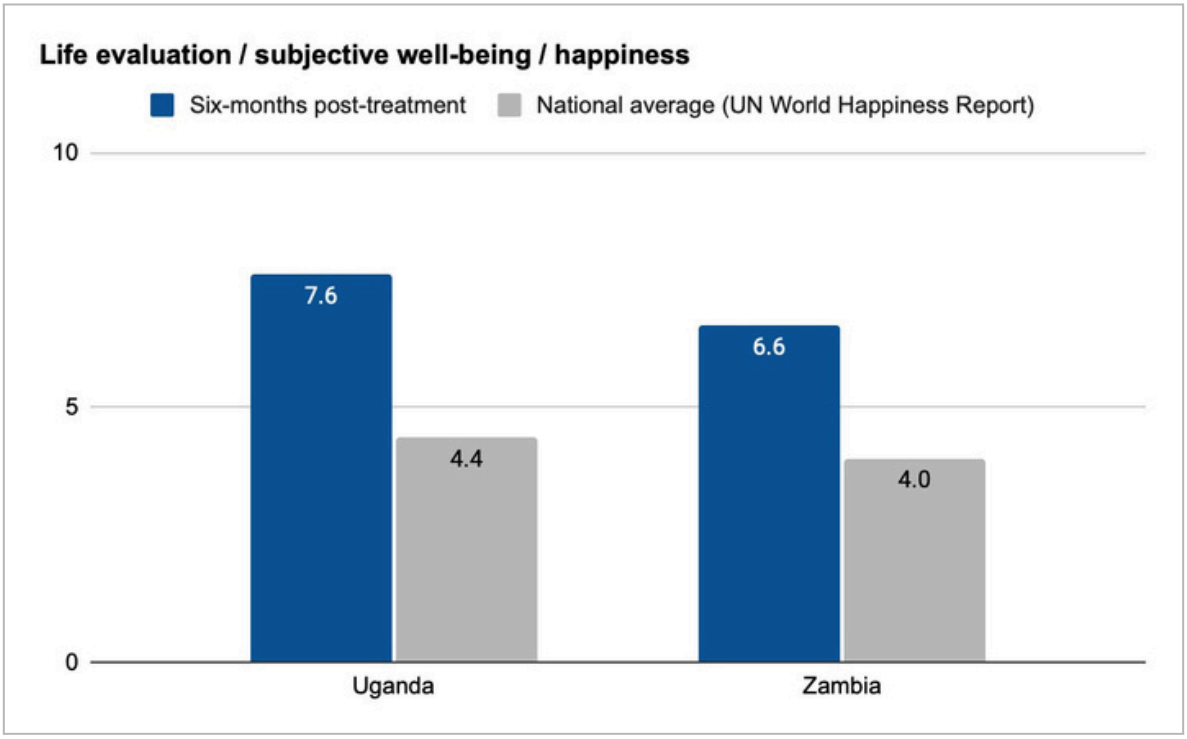
StrongMinds clients evaluated their lives very positively two-weeks after therapy, with an average of 7.5 out of 10 in Uganda and 6.6 in Zambia. We recommend *interpreting this data with caution*, as this is the first time StrongMinds has used this indicator, and the results depend a lot on language and translation. For comparison, the averages in Uganda and Zambia are 4.4 and 4.0 respectively, and the "happiest" countries in the world are Finland (7.8), Denmark (7.6), and Iceland (7.5)

[2] Drawn from the UN World Happiness Report, an annual survey in 140 countries




*Six-months post-treatment (Cycle 1)*

The results six-months post-therapy are almost identical to two-weeks post-therapy.



# Secondary indicators

**Pre-treatment to six-months post-treatment**
(unless noted otherwise)

## Adults

### Work Attendance

Among adults and out-of-school adolescents in Uganda, the percentage of individuals who did not miss work in the past week increased dramatically from 21% to 55%, representing a 34 percentage point improvement. This significant rise indicates that participants were more consistent and reliable in their work attendance post-treatment, likely due to improved mental and physical health. However, since this study did not include a control group, we don't know what share of this increase can be attributed to StrongMinds therapy. This applies to all outcomes.

### Meal Frequency

The number of individuals eating three meals a day in Uganda rose from 14% pre-treatment to 48% post-treatment, a 34 percentage point increase. In Zambia, the percentage increased from 65% to 82%, and the combined data showed an overall 17% point increase. Additionally, those consuming at least two meals per day also showed improvement in Uganda, but not in Zambia, due to already higher food security and daily nutrition among participants there.

### School Attendance

For children, the percentage who did not miss school in the past week increased significantly in Uganda from 29% to 46%, a 15 percentage point improvement. This suggests that the intervention helped improve school attendance, possibly due to better mental health and support systems. In Zambia, the increase was from 60% to 70%, indicating a similar positive trend.

### Social Support

There was a substantial increase in the number of individuals reporting they have someone for support. In Uganda, this rose from 30% pre-treatment to 81% post-treatment, a 48 percentage point increase. This suggests that the intervention not only improved mental health but also strengthened social support networks, which are crucial for long-term well-being.

| **Adult (and adolescent out of school)** | **Uganda** | **Zambia** | **Combined** |
|---|---|---|---|
| 1. Did not miss work in the past week | | | |
| Pre* | 21% | NA | 21% |
| Post | 55% | 59% | 55% |
| Change (percentage point) | 34% | NA | 34% |
| Change (percent) | 161% | | 161% |

| | | | |
|---|---|---|---|
| 2. Meals in the past 24 hours | | | |
| 3 meals | | | |
| Pre | 14% | 65% | 32% |
| Post | 48% | 82% | 60% |
| Change (percentage point) | 34% | 17% | 28% |
| Change (percent) | 239% | 26% | 88% |
| 2+ meals | | | |
| Pre | 64% | 94% | 74% |
| Post | 80% | 97% | 86% |
| Change (percentage point) | 16% | 3% | 12% |
| Change (percent) | 26% | 3% | 16% |
| # of meals | | | |
| Pre | 1.8 | 2.6 | 2.0 |
| Post | 2.3 | 2.8 | 2.4 |
| Change (# of meals) | 0.5 | 0.2 | 0.4 |
| Change (percent) | 28% | 8% | 19% |
| 3. Children did not miss school | | | |
| Pre | 29% | 60% | 40% |
| Post | 46% | 70% | 55% |
| Change (percentage point) | 18% | 10% | 15% |
| Change (percent) | 61% | 17% | 38% |
| 4. Have someone for support | | | |
| Pre | 30% | NA | 33% |
| Post | 81% | 86% | 81% |
| Change (percentage point) | 51% | NA | 51% |
| Change (percent) | 170% | NA | 170% |

# Adolescents

### School Attendance

In Uganda, 28% of children missed school at least once in the past week prior to treatment, and after treatment absenteeism was reduced by about half, to 13%, a 15 percentage point decrease.

### Grades

Only 25% of adolescents in Uganda reported that their grades were “good”, “very good” or “excellent” prior to therapy. Following treatment, the share almost tripled to 73%, a 48 percentage point increase.

## Hope

Only 9% of depressed adolescents in Uganda said they “always” feel hopeful about the future prior to therapy. Following treatment, the share quadrupled to 36%, a 27 percentage point increase.

| Adolescent (in-school) | Uganda | Zambia | Combined |
|---|---|---|---|
| 1. Did not miss school in the past week | | | |
| Pre† | 72% | NA | 72% |
| Post† | 87% | NA | 87% |
| Change(percentagepoint)† | 15% | NA | 15% |
| Change(percent)† | 21% | NA | 21% |
| 2. Grades: "good", "very good", and "excellent" | | | |
| Pre | 25% | NA | 25% |
| Post | 73% | 70% | 73% |
| Change(percentagepoint) | 48% | NA | 48% |
| Change(percent) | 195% | NA | 195% |
| 3. Hope: "always" feel hopeful about your future | | | |
| Pre | 9% | NA | 9% |
| Post | 36% | 50% | 36% |
| Change(percentagepoint) | 27% | NA | 27% |
| Change(percent) | 314% | NA | 314% |

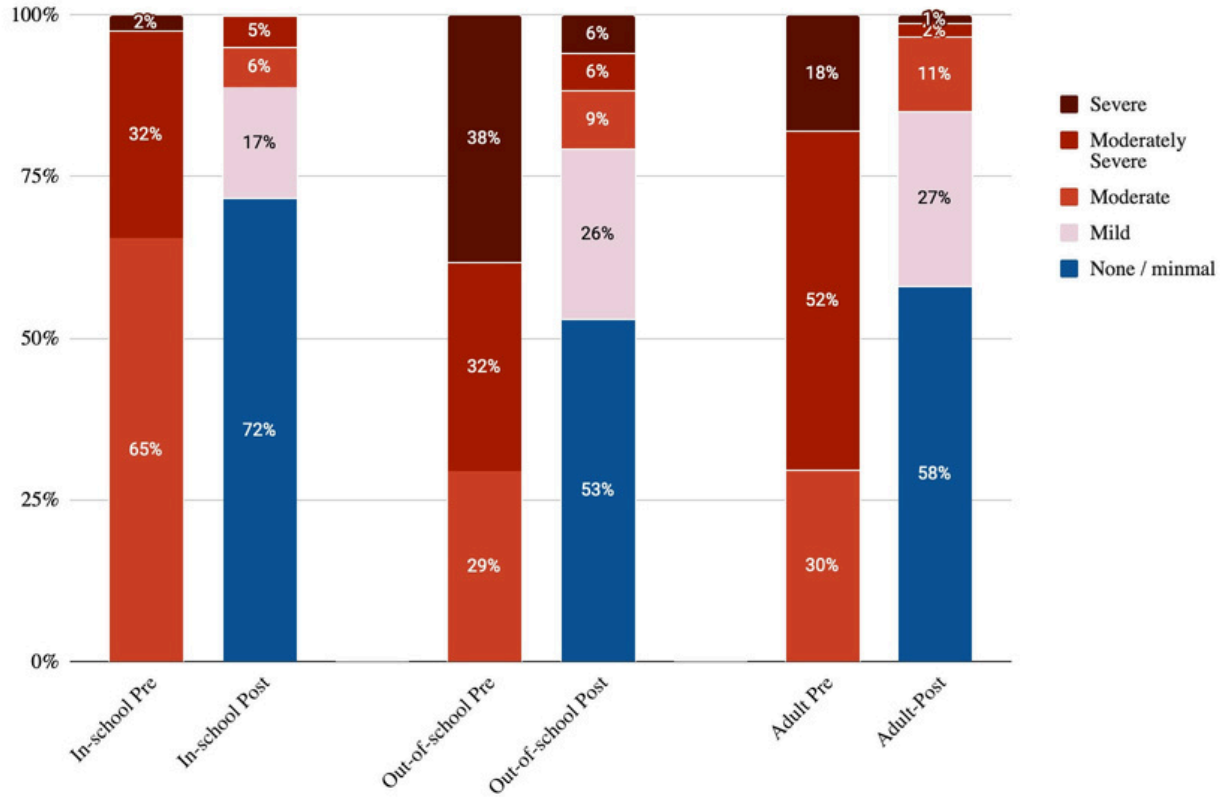
** This value has been estimated using a different treatment cohort as we do not have pre-treatment data for cycle 1, 2023. So in the table above, the pre-treatment statistic is from clients treated in cycle 3, whereas the 6-month post-treatment statistic is from cycle 1. So this pre - post change is valid if we assume that these figures do not vary over time.*

*†This data is from cycle 3, 2023, and the post-treatment data is 2-weeks post, whereas all other indicators are 6-months post. We could not include the 6-month post-treatment data from cycle 1 because the sample size was too small (n=25) to report.*

# Additional analysis

## Depression Severity and Symptom Reduction

**Uganda: Reduction in depression severity from pre-treatment to six-months post-treatment, by age group**




**In-school adolescents:** As shown in the graph above, on average, in-school adolescents in StrongMinds therapy groups see large reductions in their depressive symptoms (measured by the Patient Health Questionnaire-9, PHQ-9). The results six-months after therapy show that 72% have no or only minimal depressive symptoms, and only 11% would qualify as eligible for further treatment (PHQ-9 10 or above). This compares favorably to depression rates among the general adolescent population in Uganda, where an estimated 24% of adolescents are depressed.[3] Just over 95% of in-school adolescents saw an improvement in their symptoms (not shown in graph). The average PHQ-9 score was 13.9 pre-treatment (moderately severe), and this fell to 3.1 (minimal severity) by the last treatment session, and stayed at 3.1 six months later.

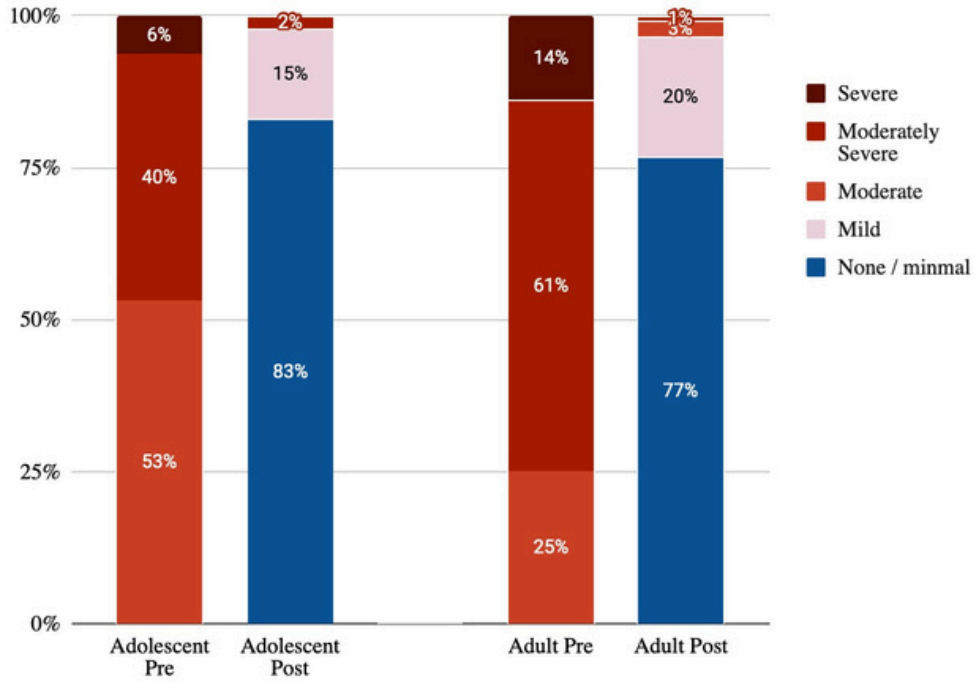
**Out-of-school adolescents:** this group had significantly higher levels of depressive symptoms prior to treatment compared to the in-school adolescents, with 38% experiencing severe depression compared to only 2% for those in-school. They also saw large reductions in depressive symptoms, with 53% having no or minimal symptoms, though 21% would still qualify as depressed (PHQ-9 10 or above), still lower than the general adolescent 91% of out-of-school adolescents saw an improvement in their symptoms (not shown in graph). The

[3] Kaggwa MM, Najjuka SM, Bongomin F, Mamun MA, Griffiths MD: Prevalence of depression in Uganda: A systematic review and meta-analysis. PLoS ONE 2022, 17(10):e0276552. pmid:36264962

average PHQ-9 score was 17.3 pre-treatment (moderate severity), with a minimum of 10 for treatment eligibility, and this fell to 3.9 (minimal severity) by the last treatment session, and rose to 5.8 (mild severity) six months later.

**Adults:** this group had levels of depressive symptoms prior to treatment that were more severe than in-school adolescents, but less severe than those out-of-school. They also saw large reductions in depressive symptoms, with 58% having no or minimal symptoms, though 15% would still qualify as depressed. 97% of adults saw an improvement in their symptoms (not shown in graph). The average PHQ-9 score was 16.3 pre-treatment (moderate severity), with a minimum of 10 for treatment eligibility, and this fell to 2.2 (minimal severity) by the last treatment session, and rose to 4.6 (minimal severity) six months later.

**Zambia: Reduction in depression severity from pre-treatment to six-months post-treatment, by age group**

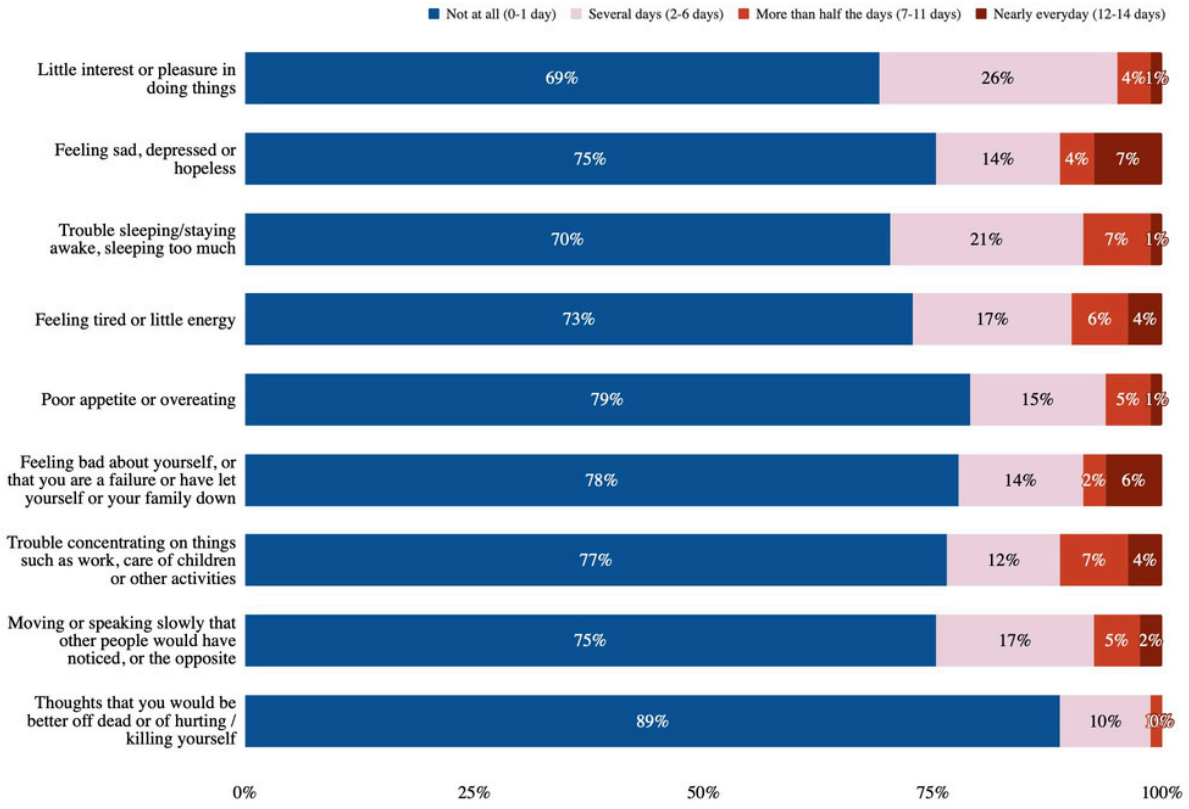



**Adolescents:** As shown in the graph above, on average, adolescents in StrongMinds therapy groups see large reductions in their depressive symptoms. The results six-months after therapy show that 83% have no or only minimal depressive symptoms, and only 2% would qualify as eligible for further treatment (PHQ-9 10 or above). 98% of adolescents saw an improvement in their symptoms (not shown in graph). The average PHQ-9 score was 14.8 pre-treatment (moderately severe), and this fell to 3.4 (minimal severity) by the last treatment session, and fell further to 2.3 six months later.

**Adults:** this group had levels of depressive symptoms prior to treatment that were more severe than adolescents in Zambia, and fairly similar to adults in Uganda. They also saw large reductions in depressive symptoms, with 77% having no or minimal symptoms, though 4% would still qualify as depressed. 99% of adults saw an improvement in their symptoms (not

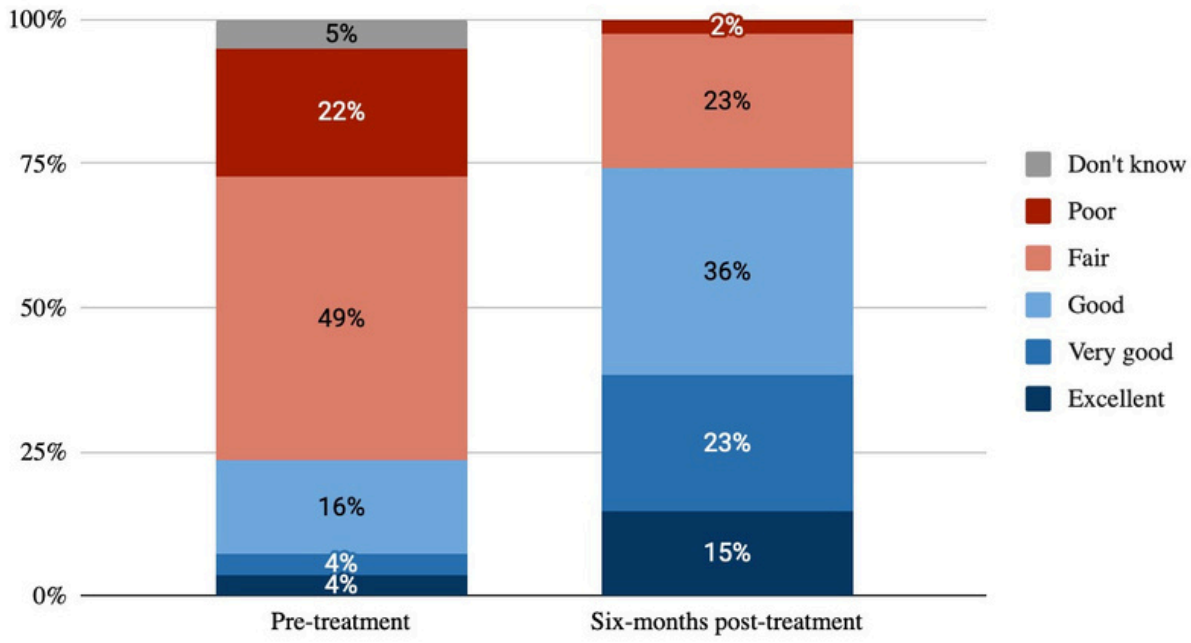
shown in graph). The average PHQ-9 score was 16.5 pre-treatment (moderate severity), with a minimum of 10 for treatment eligibility, and this fell to 3.0 (minimal severity) by the last treatment session, and fell to 2.7 (minimal severity) six months later.

**Levels of depressive symptoms six-months post treatment**




This graph shows the details of how in-school adolescents are faring six-months after treatment. For each symptom in the PHQ-9, the vast majority of people do not suffer from the symptom at all, or for just 1 day in the past 2 weeks. The most common persistent symptom was finding little interest or pleasure in doing things.

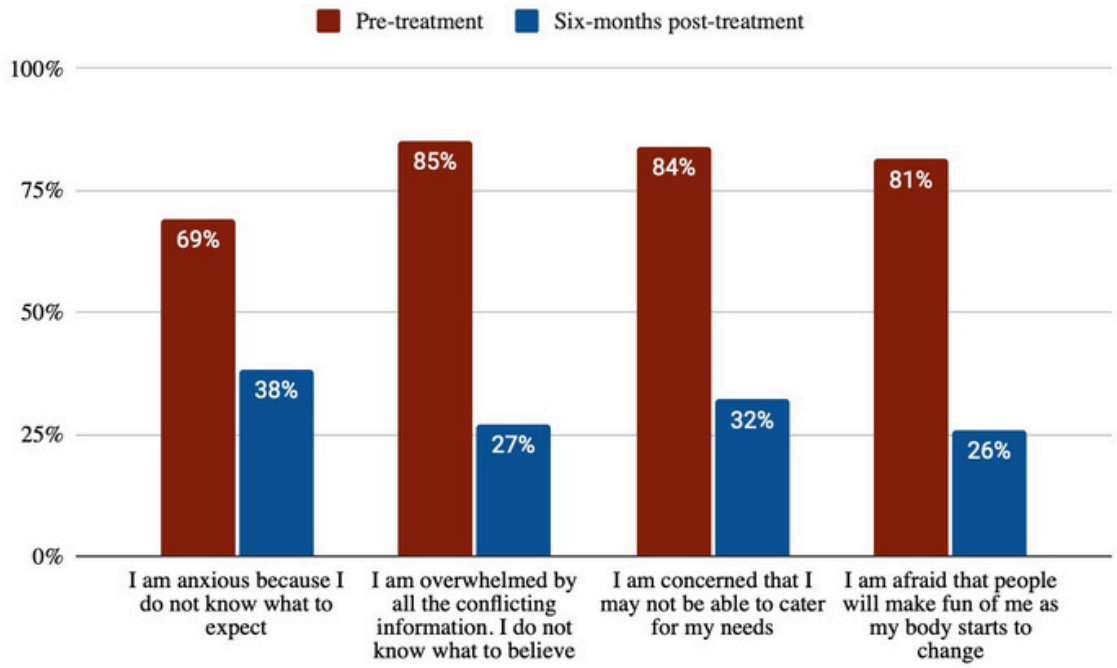
## Grades in School




This graph shows how the population of in-school adolescents improved their grade distribution from before to six-months after therapy. Prior to treatment, only 23% reported that their grades were good, very good, or excellent, and then six months after therapy 74% did. 62% indicated that their grades had improved. Note that grades are self-reported - in the future StrongMinds plans to collect this data directly from schools.

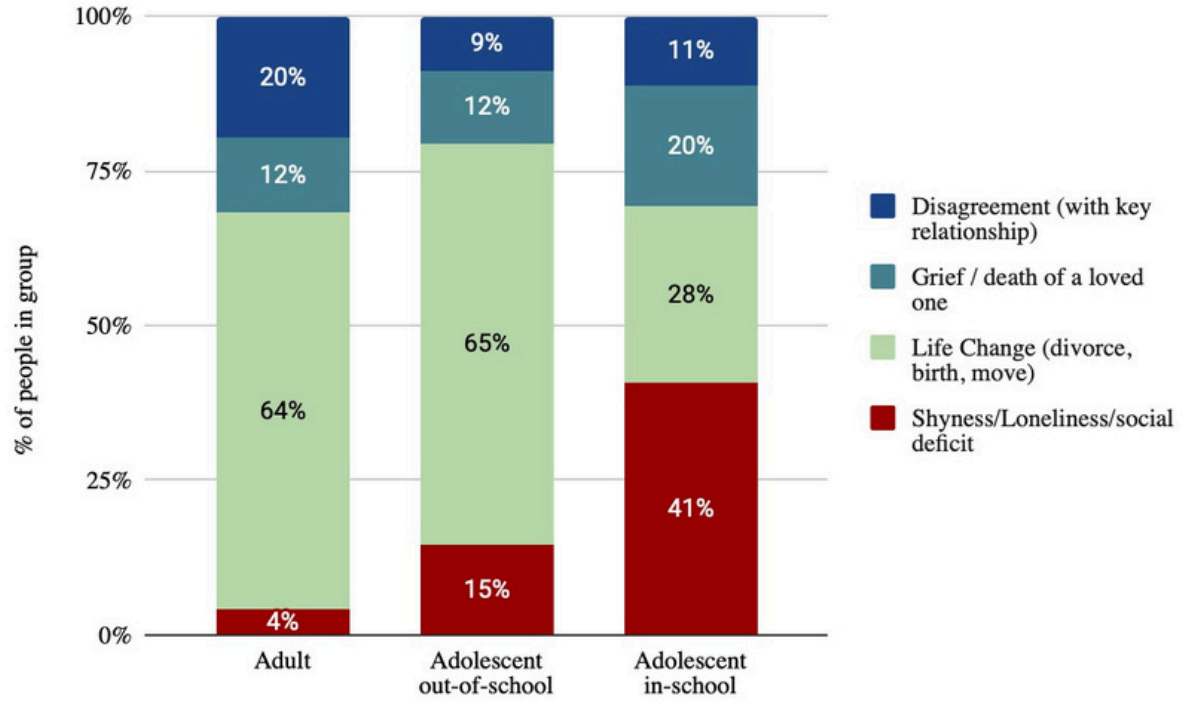
## Anxiety About Growing Up

Before and six-months after treatment, StrongMinds in-school adolescents were presented with a series of statements to gauge their anxiety about growing up to become women and men. The following chart shows that the majority of clients are not just depressed, but fairly anxious about their futures. It also shows how the therapy significantly reduced their anxiety. Across the four statements, 74% experienced an overall reduction in their anxiety about growing up (not shown in graph).




## Depression Triggers

Depression trigger by age / school status



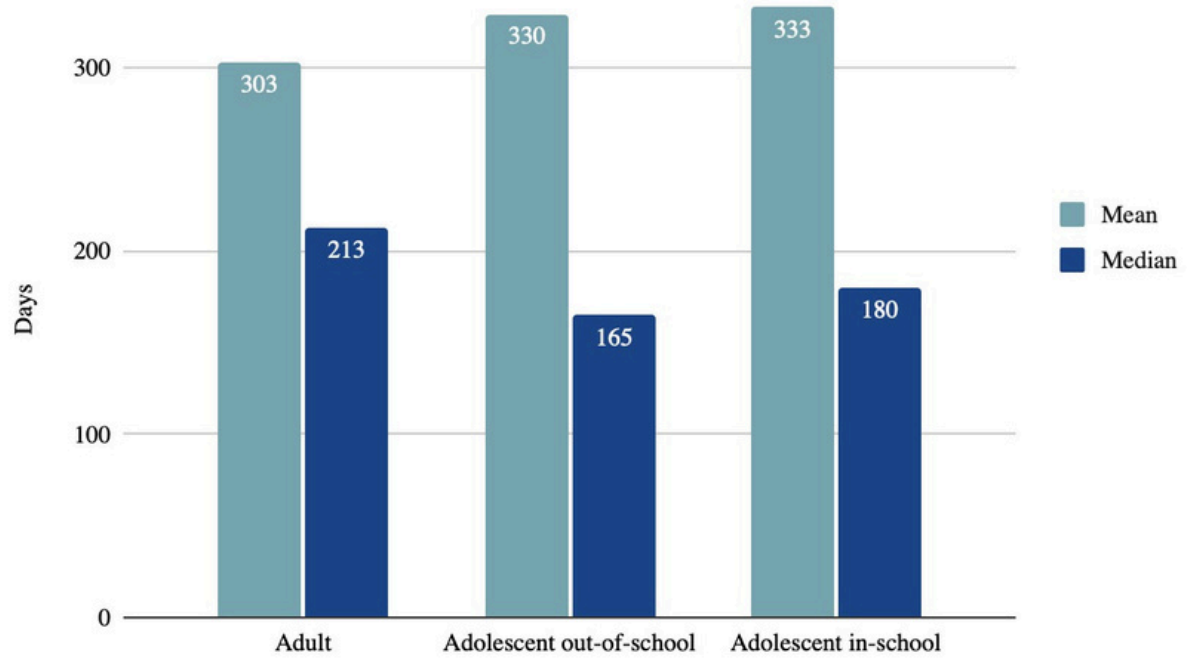

This graph shows that adolescents who are attending school tend to have different depression triggers than out-of-school adolescents or adults. The most common trigger is shyness, loneliness or social deficit (41%), which is the least common trigger for adults. Notably, their

depression triggers are diverse, with another 28% becoming depressed due to life change, 20% due to grief, and 11% due to disagreement with a key relationship.

Out-of-school adolescents have a trigger profile that looks a lot like adults - the main trigger is life change (65% compared to 64% for adults), and many in this group are new mothers. They have relatively more shyness / loneliness than adults, and less disagreement with a key relationship.

This illustrates the need for different therapy groups for in-school vs. out-of-school adolescents, as they tend to be at different stages in life, and can benefit from the support of peers going through similar experiences.

**Duration of depression trigger in days by age/ school status**




This graph demonstrates the dire need for expanding access to therapy. Across age ranges, on average people have been struggling with one or more problems that triggered depression for 10 - 11 months. The means are skewed due to some cases where people waited 2 or more years, though the medians (middle of the distribution, 50th percentile are also quite long for all groups: about 6 months for in school adolescents, slightly less for out-of-school adolescents, and about 7 months for adults.