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**Strengthening Relationships and Mental Health Through a Couples-Based Economic Empowerment Intervention**

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# **Strengthening Relationships and Mental Health through a Couples Economic Empowerment Intervention**

## **Brief Summary**

This sub-study is part of a larger randomized controlled trial (RCT) titled *Disentangling and Preventing Economic Violence against Women (ECOV)*. It is conducted in rural and urban communities across Maharashtra, Andhra Pradesh, and Rajasthan, India. The sub-study evaluates the impact of a couples-based financial literacy and gender-transformative intervention on relationship strength, empathy, and mental health among married couples. Using a two-arm cluster RCT design, 150 clusters (villages or community units) are randomized to intervention or control, with ~15 husband–wife pairs per cluster (approximately 2,250 couples in total). Outcomes are measured at baseline (pre-intervention) and endline (post-intervention) approximately six months after delivery of the intervention to assess changes in perceived relationship strength, empathy (using an adapted relationship strengths and empathy scale), and mental health (General Health Questionnaire-6, GHQ-6). The study will also explore whether improvements in relationship strength and empathy mediate the intervention’s effect on mental health outcomes.

## **Detailed Description**

Studies report that couples-based programs combining financial or economic empowerment content with gender-equity and relationship-building components often yield improved relationship quality. For example, Falconier et al. (2022) describe a 20-hour workshop for low-income African-American couples that significantly reduced stress and improved conflict management and relationship satisfaction at 6 months. Moore et al. (2023) observed improved

overall relationship quality among low-income couples with children, while studies from Nigeria (John et al., 2022) and India (Raj et al., 2022) document enhanced communication, trust, and joint decision-making—with adjusted relative odds for improved communication.

Interventions that combine microfinance or business training with participatory gender or relationship education (e.g., Kim et al., 2007; Ismayilova et al., 2017) report reductions in intimate partner violence—one study noted a reduction in risk by more than 50%—and improved empowerment through enhanced decision-making.

Measures of mental health and well-being, such as stress reduction and improved financial autonomy, also improved in several evaluations (Falconier et al., 2022; Ismayilova et al., 2017), although mental health outcomes appear less consistently reported than relationship outcomes. Notably, partner empathy was not an explicitly measured outcome in any study. Programs varied in intensity—from 4–8 sessions and multi-day trainings to interventions extending over 24 months—and were implemented in diverse contexts spanning low-income and rural communities in the United States, Africa, and South Asia.

This sub-study provides a focused evaluation of psychosocial outcomes within the broader “Let us Grow Together: Economic Wellbeing for Families” intervention. The main trial is designed to improve families’ economic well-being through financial literacy training, while also integrating gender-transformative content to address intra-household dynamics. The sub-study specifically evaluates program impacts on marital relationship quality and mental health. It is premised on the idea that empowering couples with financial skills and promoting equitable, empathetic relationships can strengthen partner bonds and reduce psychological distress.

Participants in the intervention arm attend six structured community-based sessions for couples. These sessions blend financial literacy education (e.g. budgeting, savings, financial planning) with content on gender equity, communication, and shared decision-making. The curriculum is gender-transformative, meaning it challenges traditional gender roles and encourages empathy and cooperation between spouses. Sessions are interactive and participatory, fostering dialogue on relationship expectations, emotional support, and joint problem-solving. Between sessions, couples receive SMS text message reinforcements to encourage practice of the skills learned and to sustain engagement.

The study uses a cluster randomized controlled trial design to avoid contamination between participants. Clusters (such as villages or community centers) are randomly assigned to either the intervention or control arm by an external trial statistician. All eligible couples within intervention clusters receive the couples' sessions program, whereas couples in control clusters do not receive any structured intervention during the study period (they continue with services as usual). Both arms undergo identical baseline and endline assessments. The endline survey, conducted after completion of the six sessions, collects data on relationship strength, empathy, and mental health to measure changes from baseline. By comparing these changes between the intervention and control arms, the study will estimate the intervention's causal effect on the targeted outcomes.

In addition to direct outcome evaluation, an exploratory mediation analysis is planned. This analysis will test whether any improvement in mental health (GHQ-6 scores) due to the intervention occurs indirectly through enhanced relationship strength and empathy. In other words, the study will examine if the intervention's effect on participants' mental well-being is mediated by stronger couple relationships and greater spousal empathy. This will help elucidate

the mechanism of impact: whether the economic and gender content improves mental health by improving how partners relate to and support each other. Findings from this sub-study will contribute to understanding the added value of integrating relationship-building and gender equity components into economic empowerment programs for families.

## **Conditions**

- Marital Relationship Quality Improvement
- Empathy Enhancement
- Mental Health (Psychological Distress)

## **Keywords**

Couples Intervention; Financial Literacy; Gender-Transformative; Relationship Strength; Empathy; Mental Health; GHQ-6; Cluster RCT; India; Family Economic Wellbeing

## **Study Design**

- Study Type: Interventional two-arm cluster randomized controlled trial
- Study Model: Parallel assignment by cluster (community-level randomization of couples into two groups)
- Number of Arms: 2 (Intervention vs. Control)
- Masking: None (Open Label). Due to the nature of the intervention and logistics of the trial, participants and facilitators will be aware of group assignment. Blinding of outcome assessors will also not be possible since they will be aware of study clusters in which the intervention takes place for logistical reasons and oversight of the intervention implementation.

- Allocation: Randomized (150 clusters randomly assigned 1:1 to intervention or control)
- Primary Purpose: Prevention/Supportive Care (to improve psychosocial well-being and mental health via a behavioral intervention)
- Anticipated Enrollment: 150 clusters, ~2,250 couples total (approximately 4,500 individuals)

## **Arms and Interventions**

- **Intervention Arm (Couples Training Intervention):** Married couples in clusters assigned to the intervention receive a structured program of six community-based sessions. Each session lasts between 2.5 and 3 hours and includes participatory activities, discussions, and exercises. All six sessions would be conducted by the same two facilitators - one male and one female. The content integrates financial literacy (e.g., household budgeting, saving practices, joint financial planning) with gender-transformative training (e.g., equitable household roles, communication skills, conflict resolution, and fostering empathy between spouses). Sessions are delivered by trained facilitators in a group setting with fifteen couples, approximately every 2–4 weeks. Some sensitive content to address economic violence context would be done in a gender segregated manner separately to encourage reflections, ensure safety and reduce defensiveness. Between sessions, SMS reminders and tips are sent to participants' mobile phones to reinforce key messages and encourage couples to apply new skills at home. The intervention is designed to simultaneously strengthen economic decision-making and the emotional/relational bond between partners.
- **Control Arm (No Intervention Control):** Married couples in clusters assigned to the control arm do not receive the special couples training during the study period. They

continue with standard activities and resources available in the community but without the structured sessions provided to the intervention arm. This control condition represents the status quo against which the added effect of the intervention can be measured. After the conclusion of the study, control clusters may be offered the intervention materials or sessions via our NGO partners in case we find overall positive treatment effects, ensuring ethical considerations are met.

## **Outcome Measures**

### **Primary Outcome Measures**

1. **Perceived Relationship Strength (PRS):** Change in the composite Relationship Satisfaction Index (Funk & Rogge, 2007) (trust, communication, mutual support, conflict resolution).

*Hypothesis:* Greater improvement in the intervention group than in controls.  
[Time Frame: T1 = baseline (prior to Session 1); T2 = endline (~14–18 months after baseline)]

2. **Relational Empathy Scale (RE):** Adapted standardized Interpersonal Reactivity Index for Couples (emotional support, perspective-taking) (Peloquin & Lafontaine, 2010).

*Hypothesis:* Larger empathy gains in the intervention group. [Time Frame: T1 = baseline; T2 = endline]

3. **Mental Health (GHQ-6):** Change in General Health Questionnaire-6 scores (psychological distress) (Rao et al, 1992).

*Hypothesis:* Greater distress reduction (or well-being increase) in the intervention group.  
[Time Frame: T1 = baseline; T2 = endline]

## **Statistical Analysis Plan**

Proportion of the mental-health effect that is mediated: Using the mediation framework of Imai, Keele & Tingley (2010), we will estimate what percentage of the total treatment effect on GHQ-6 is carried by (i) changes in empathy and (ii) changes in relationship strength.

[Time Frame: Uses the same T1 and T2 data]

We will examine whether the intervention's impact on mental health (GHQ-6 at endline) operates partly through improvements in partner empathy and relationship strength measured at endline. Baseline levels of each construct will be adjusted for to improve precision. Empathy and relationship strength will be treated as parallel, potentially correlated mediators; we do not assume a temporal order between them because both are only re-measured at endline.

Causal mediation effects will be estimated using the approach of Imai, Keele & Tingley (2010; 2011). We will report (i) the indirect effect operating through endline empathy, (ii) the indirect effect operating through endline relationship strength, (iii) the remaining direct effect, and (iv) the percentage of the total treatment effect mediated by each pathway. Cluster-robust inference will be used to reflect community-level randomisation. A sensitivity analysis (p-based) will assess robustness to potential unmeasured confounding of mediator–outcome links.

## **Moderation (pre-specified)**

We will explore whether programme impacts differ across the following binary baseline moderators:

- Traditional vs Progressive gender-norm attitude (median split).



- High vs Low household economic strain (median split).
- Rural vs Urban residence (cluster classification).
- Co-residing with in-laws vs not.
- Children in household (0 vs 1-2 vs  $\geq 3$ ; see note below).
- Love vs Arranged marriage.

Each moderator will be tested by adding a Treatment  $\times$  Moderator interaction to the main outcome model (ITT). We will report subgroup average treatment effects and apply false-discovery-rate adjustment across tests.

**Children note (future refinement):** To probe possible non-linear moderation by family size, we will run three binary subgroup models—(i) no children, (ii) 1–2 children, (iii)  $\geq 3$  children—each with its own Treatment  $\times$  Subgroup interaction. If sample size permits, an additional exploratory model in the Statistical Analysis Plan will treat number of children as a three-category factor (0, 1–2, 3+) or count term; results will be clearly labelled as exploratory.

## **Eligibility Criteria**

- Minimum Age: 18 Years
- Maximum Age: Women: 18 - 49 years, Men: 18+
- Sex: Male, Female
- Gender Based: Couple must comprise one male and one female (heterosexual pair)
- Accepts Healthy Volunteers: Yes
- Couples: Married and co-habiting, husband–wife pairs, who regard the selected cluster in the states Maharashtra, Andhra Pradesh, or Rajasthan of India as their primary residence for the study period.

- Consent: Both partners provide written informed consent and agree to six sessions, baseline and endline surveys, and SMS follow-ups.
- Education: Primary schooling (4th grade) complete
- Comprehension: Both partners understand the local language used in sessions.
- Availability: No plans for relocation or prolonged absence before endline.

#### **Exclusion Criteria:**

- Either partner < 18 years.
- Refusal of consent or unwillingness to participate in sessions or data collection by either partner.
- Serious physical or mental condition that prevents safe, active participation (e.g., severe mental illness, debilitating disease).

#### **Data Collection Timeline**

- **Baseline (Month 0):** Comprehensive survey (PRS, RE, GHQ-6, demographics) administered before the first session in each cluster.
- **Intervention Delivery Period (Months 4–9):** Six couples sessions delivered every 2–4 weeks (total 3–5 months), reinforced by SMS. Attendance and process metrics recorded; no midline survey.
- **Endline Assessment (Months 14–18):** Post-intervention survey re-administers PRS, RE, and GHQ-6 within 3-6 months after interventions Session 6, while matching timing in control clusters.
- **Estimated Timeline:** The study's active phase for each cohort of clusters is roughly 14-18 months from baseline to endline. For example, if the trial commences enrollment and

baseline surveys in January of a given year, intervention delivery in those clusters might run from May through October, and endline surveys in May. Across all clusters, a staggered rollout may occur. The overall trial (all clusters) is expected to launch in July, 2025 and conclude data collection by March, 2027, assuming a rolling implementation. These dates are approximate; the precise timeline will depend on field logistics. The trial registration anticipates enrollment and baseline initiation in the coming months, with completion of endline assessments approximately 12 months thereafter (accounting for all clusters to finish).

## References

- Falconier, M. K., Kim, J., & Lachowicz, M. J. (2023). Together—A couples' program integrating relationship and financial education: A randomized controlled trial. *Journal of Social and Personal Relationships*, 40(1), 333–359. <https://doi.org/10.1177/02654075221118816>
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology*, 21(4), 572–583. <https://doi.org/10.1037/0893-3200.21.4.572>
- Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods*, 15(4), 309–334. <https://doi.org/10.1037/a0020761>
- Ismayilova, L., Karimli, L., Gaveras, E., Tô-Camier, A., Sanson, J., Chaffin, J., & Nanema, R. (2018). An integrated approach to increasing women's empowerment status and reducing domestic violence: Results of a cluster-randomized controlled trial in a West African country. *Psychology of Violence*, 8(4), 448–459. <https://doi.org/10.1037/vio0000136>
- John, N. A., Adebayo, A., Boychuk, N. A., & OlaOlorun, F. (2022). Intimate partner violence (IPV) prevention using a cross-sectoral couple-based intervention: Results from a cluster randomised control trial in Ibadan, Nigeria. *BMJ Global Health*, 7(2), e007192. <https://doi.org/10.1136/bmjgh-2021-007192>
- Kim, J. C., Watts, C. H., Hargreaves, J. R., Ndhlovu, L. X., Phetla, G., Morison, L. A., Busza, J., Porter, J. D. H., & Pronyk, P. (2007). Understanding the Impact of a Microfinance-Based Intervention on Women's Empowerment and the Reduction of Intimate Partner Violence in South Africa. *American Journal of Public Health*, 97(10), 1794–1802. <https://doi.org/10.2105/aiph.2006.095521>

Moore, Q., Wood, R. G., & Wu, A. Y. (2023). Impacts of healthy marriage and relationship education with integrated economic stability services. *Family Relations*, 72(4), 1422–1440.

<https://doi.org/10.1111/fare.12877>

Péloquin, K., & Lafontaine, M.-F. (2010). Measuring Empathy in Couples: Validity and Reliability of the Interpersonal Reactivity Index for Couples. *Journal of Personality Assessment*, 92(2), 146–157. <https://doi.org/10.1080/00223890903510399>

Raj, A., Ghule, M., Johns, N. E., Battala, M., Begum, S., Dixit, A., Vaida, F., Saggurti, N., Silverman, J. G., & Averbach, S. (2022). Evaluation of a gender synchronized family planning intervention for married couples in rural India: The CHARM2 cluster randomized control trial.

*eClinicalMedicine*, 45, 101334. <https://doi.org/10.1016/j.eclinm.2022.101334>

Rao, K. N., Begum, S., Siddappa, K., & Ravindra, K. (1992). Validity of a 6-item version of general health questionnaire (g.h.q.) in the hands of a non—Psychiatrist. *Indian Journal of Psychiatry*, 34(2), 145–147.

## Appendix

### **Global Health Scale - 6 (6 items)**

Have you recently:

felt constantly under strain?

felt you couldn't overcome your difficulties

been able to face up to your problems

been feeling unhappy and depressed

been losing confidence in yourself

been feeling reasonably happy

Response: Not at all, No more than usual, Rather more than usual, Much more than usual

### **Relationship Satisfaction Index Adapted/ Perceived Relationship Scale (3 items)**

Please read each statement and indicate how much you agree or disagree:

My husband's and my marriage is strong.

My relationship with my husband makes me happy.

I really feel like I am part of a team with my husband.

Responses: Strongly Agree, Agree, Neither agree nor disagree, Disagree, Strongly Disagree

### **Interpersonal Reactivity Index for Couples Adapted / Relational Empathy Scale (4 items)**

Please read each statement and indicate how much you agree or disagree:

I try to look at my husband's side of a disagreement before I make a decision.

Sometimes I don't feel very sorry for my husband when he is having problems.

When I see my husband being taken advantage of, I feel kind of protective towards him.

When I'm upset with my husband, I usually try to "put myself in his shoes" for a while.

Responses: Strongly Agree, Agree, Neither agree nor disagree, Disagree, Strongly Disagree