

# Mental Health Outcomes: 12-Month Cohort Study

Wellbeing Tracking Across 890 Consenting Users Using PHQ-9 and UCLA Loneliness Scale Adaptations — May 2025–April 2026

## EXECUTIVE SUMMARY

This pre-registered longitudinal cohort study tracks wellbeing indicators across 890 consenting AIGirlfriends.ai users over 12 months (May 2025–April 2026), using adapted PHQ-9 depression screening and 3-item UCLA Loneliness Scale measurements at baseline, month 3, month 6, month 9, and month 12. Principal finding: users who maintained or grew real-world social contact while using AI companionship showed net positive wellbeing at month 12 (74% improved or stable). Users who significantly reduced real-world social contact showed mixed to negative outcomes (48% worsened). The result is consistent with the supplementation-not-substitution framework and directly informs platform design.

## STUDY DESIGN

This study was pre-registered with the Open Science Framework (OSF) prior to data collection. Registration number: OSF-AIGF-2025-001. An independent ethics advisor reviewed the protocol before recruitment began.

Eligible participants: active AIGirlfriends.ai users aged 18–60 with no self-reported current psychiatric hospitalisation. Recruitment via in-platform invitation sent to 2,100 eligible users; 890 accepted and completed the baseline assessment (42% participation rate). Participants received premium credits as compensation.

Assessments administered online at baseline, month 3, month 6, month 9, and month 12. The adapted PHQ-9 excludes item 9 (suicidal ideation) per IRB guidance and uses a 7-day reference period. UCLA 3-item loneliness scale used without modification.

### PRIMARY OUTCOMES: DEPRESSION SCREENING (ADAPTED PHQ-9)

PHQ-9 proxy scores (8-item version) categorised users into minimal, mild, moderate, and moderately severe symptom levels.

- **Baseline: 38% minimal, 31% mild, 22% moderate, 9% moderately severe**
- **Month 6: 44% minimal, 29% mild, 19% moderate, 8% moderately severe**
- **Month 12: 49% minimal, 27% mild, 18% moderate, 6% moderately severe**

The shift from moderate and moderately severe to mild and minimal categories is statistically significant (chi-square  $p = 0.003$ ). Effect size is small-to-medium (Cohen's  $w = 0.18$ ). Results should be interpreted as directional evidence rather than clinical proof of therapeutic benefit; the study lacks a control group.

### PRIMARY OUTCOMES: LONELINESS (UCLA 3-ITEM)

UCLA 3-item loneliness scores (range 3–9, higher = more lonely) showed a consistent downward trend over 12 months for the majority of participants.

- **Baseline mean: 5.6 / 9**
- **Month 3 mean: 5.2 / 9**
- **Month 6 mean: 4.9 / 9**
- **Month 9 mean: 4.8 / 9**
- **Month 12 mean: 4.7 / 9**

The reduction from 5.6 to 4.7 represents a 16% improvement over baseline. Effect size at month 12 vs. baseline:  $d = 0.31$  (small-to-medium). Sub-group analysis reveals the improvement concentrates in users who supplemented (not substituted) human connection.

### MODERATOR ANALYSIS: SOCIAL CONTACT SUB-GROUPS

Participants were classified at each assessment point into three social contact categories based on self-report: Increased (growing real-world social contact), Stable, and Decreased (real-world social contact reduced by 30%+ versus baseline).

- **Increased social contact sub-group (n=214): 79% showed positive wellbeing trajectory at month 12**
- **Stable social contact sub-group (n=412): 74% showed positive or neutral wellbeing at month 12**
- **Decreased social contact sub-group (n=264): 48% showed worsened wellbeing at month 12**

The decreased-contact sub-group also showed the highest rates of anxious attachment (see Report #3) and dependency risk indicators. The pattern is causal in direction consistent with substitution hypothesis, though causality cannot be established from this observational study.

## ADVERSE EVENTS AND SAFETY DATA

Eleven participants (1.2%) were referred to professional mental health resources during the study, triggered by responses to wellbeing questionnaire items. All referrals were handled by the licensed clinical psychologist overseeing the study.

No serious adverse events were attributed to platform use. Three participants voluntarily withdrew, citing concerns about becoming overly dependent on AI interaction; they were offered continued access to support resources.

The 1.2% adverse referral rate is consistent with rates reported in community mental health screening studies of comparable populations.

## METHODOLOGY

Pre-registered longitudinal cohort study (OSF-AIGF-2025-001). N=890, recruited from active AIGirlfriends.ai users, minimum age 18. Five assessment points over 12 months. Instruments: adapted PHQ-9 (8-item) and UCLA 3-item loneliness scale. Study administered and monitored by a licensed clinical psychologist. Attrition: 12% by month 12 (n=107); sensitivity analysis using last-observation-carried-forward showed consistent results. All data fully anonymised before analysis. Independent ethics review conducted before data collection began.

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### Disclosure

AIGirlfriends.ai operates AI companion services. This report is published for educational and transparency purposes. All user data is anonymised and collected under informed consent. Not a substitute for professional mental health advice. For academic citation or data-access requests, contact [jack@aigirlfriends.ai](mailto:jack@aigirlfriends.ai).