Supplementary Materials - Demographic breakdown of survey respondents

Age	#Participants
Min. 18, Max. 55, Mean 28.33	
18-25	105
26-33	148
34-41	23
42-49	14
50-55	7
Prefer not to disclose	1
Gender	
Woman	283
Non-binary	12
Man	1
Prefer not to disclose	2
Sexual Orientation	
Heterosexual	204
Bisexual	55
Gay or lesbian	18
Prefer to self-describe (Queer=7, Pansexual=2, Asexual=5, Bisexual/Asexual=1)	15
Prefer not to disclose	6
Race/Ethnicity	
Only white or Caucasian	139
Only Black or African American	74
Only Hispanic or Latino	46
Only Asian	14
Only Middle Eastern	3
Two or more ethnicities	15
Prefer to self-describe (Black and Mixed, Mixed=2, West Indian, Mauritian)	5
Prefer not to disclose	2
Place of Residence	
Rural	57
Urban	235
Prefer not to disclose	6
Highest Degree	
High school degree	30
Some college, no degree	56
Associate degree	15
Bachelor's degree	136
Master's degree	46
Professional degree	7
Doctorate	4
Prefer not to disclose	4
Household Income	
0- $19,999	64
$20,000 - $39,999	77
$40,000 - $59,999	57
$60,000 - $79,999	41
$80,000 - $99,999	15
$100,000 or more	31
Prefer not to disclose	14

Supplementary Materials – Major statistical results

Ordinal Regressions

Characteristic	Main Effect			Post-hoc Test
	z	p	95%CI	
Expectation of Accuracy (periods): E2=0.038				
AI Keywords	2.261	0.024	0.06-0.79	Base – AI Keywords: z ratio=-2.26, p=0.061
AI Explanation	4.611	<0.001	0.50-1.23	Base – AI Explanation: z ratio=-4.61, p<.0001
				AI Keywords – AI Explanation: z ratio=-2.31, p=0.054
Expectation of Accuracy (ovulation and fertile window): E2=0.040				
AI Keywords	3.034	0.0024	0.20-0.93	Base – AI Keywords: z ratio=-3.03, p=0.007
AI Explanation	4.815	<0.001	0.53-1.25	Base – AI Explanation: z ratio=-4.81, p<0.0001
				AI Keywords – AI Explanation: z ratio=-1.74, p=0.189
Willingness to download: E2=0.040				
AI Keywords	2.065	0.039	0.02-0.72	Base – AI Keywords: z ratio=-2.06, p=0.097
AI Explanation	4.719	<0.001	0.50-1.20	Base – AI Explanation: z ratio= -4.72, p<0.0001
				AI Keywords – AI Explanation: z ratio=-2.66, p=0.021
Willingness to use (period tracking): E2=0.016				
AI Keywords	0.267	0.7892	-0.37-0.49	Base – AI Keywords: z ratio=-0.267, p=0.961
AI Explanation	1.988	0.0469	0.006-0.881	Base – AI Explanation: z ratio=-1.988, p=0.115
				AI Keywords – AI Explanation: z ratio=-1.709, p=0.202
Willingness to use (trying to conceive): E2= 0.114				
AI Keywords	1.269	0.204	-0.33-1.62	Base – AI Keywords: z-ratio =-1.27, p=0.4127
AI Explanation	2.61	0.009	0.37-2.51	Base – AI Explanation: z-ratio=-2.61, p=0.025
				AI Keywords – AI Explanation: z-ratio=-1.607, p=0.243
Willingness to use (avoiding conception): E2= 0.0836				
AI Keywords	1.933	0.053	-0.006-1.78	Base – AI Keywords: z-ratio=-1.933, p=0.123
AI Explanation	3.142	0.002	0.51-2.16	Base – AI Explanation: z-ratio=-3.142, p=0.005
				AI Keywords – AI Explanation: z-ratio=-0.910, p=0.634

Kruskal Wallis

Trust			
Goals	χ^2	P	Post-hoc test
Period tracking	1.50	0.472	No post-hoc test was conducted, not statistically significant.
Trying to conceive	3.84	0.146	No post-hoc test was conducted, not statistically significant.
Avoiding conception E2=0.157	7.988	0.018	AI Keywords – Base: Z=2.62, p=0.026 AI Explanation – Base: Z=2.04, p=0.061 AI Keywords – AI Explanation: Z= 0.82, p=0.413

Supplementary Materials - Survey Questions

Below are the survey questions used for the analysis in the paper. The survey included more questions, but those are the ones relevant for the goals of this study. In the Comparison questions, Kaya A is always the app that the participant used in the simulation. Kaya B is another version of Kaya randomly assigned. Participants did not simulate Kaya B, they saw images of the app store page of both apps side-by-side in the survey to answer the comparison questions.

All objective questions are 7-point Likert Scale unless specified differently.

Willingness to use

1) Given the app store description you just read (image left), how likely would you be to download Kaya?

2) How likely would you be to use Kaya to track your periods?

3) How likely would you be to use Kaya to try to conceive a child?

4) How likely would you be to use Kaya as a birth control method? (i.e., to avoid a pregnancy)

Interpretation

5) In your opinion, how does Kaya make predictions for your period dates, ovulation, and fertile window?

6) The app store page (image) mentioned Kaya offers 'personalized fertility information.' What does this mean to you?

7) (For the Control version this question appears in the Comparison section): In different screens, Kaya mentions it is 'Powered by AI', or Artificial Intelligence. What do you think 'Powered by AI' means?

8 Ambiguous AI) What do you think Kaya is doing when you see the message 'KAYA is using your information to get smarter......'?

8 Black-box AI) What do you think Kaya is doing when you see the message 'KAYA is using your period dates, OPK, and temperature data to improve predictions...'?

Trust in predictions

9) How accurate do you expect Kaya's predictions for period dates are?

10) How accurate do you expect Kaya's predictions for ovulation and fertile window are?

11) Imagine you decide to use Kaya for your own fertility goals. Which would be your primary goal?

    ( ) Period tracking

    ( ) Trying to conceive

    ( ) Trying to avoid conception

    ( ) Other. Specify.

12) Why do you trust or distrust the predictions made by Kaya?

13) In general, how likely would you trust Kaya for period tracking?

14) In general, how likely would you trust Kaya for trying to conceive?

15) In general, how likely would you trust Kaya as your birth control method (avoiding conception)?

16) What did you consider when answering the last 3 questions?

Comparisons

17) What do you think is the difference between these 2 apps? (Show images of the app store page of Kaya A, the one the participant simulated, and Kaya B, another version randomly assigned)

18) How do you think the similar app, Kaya B, calculates the predictions for period dates, ovulation, and fertile window?

19) Given the app store description of Kaya B (similar app), how likely would you be to download Kaya B?,

20) How likely would you be to use Kaya B (similar app) to track your periods?

21) How likely would you be to use Kaya B (similar app) to try to conceive a child?

22) How likely would you be to use Kaya B (similar app) as a birth control method? (i.e., to avoid a pregnancy)

23) How accurate do you expect Kaya B's predictions for period dates are?

24) How accurate do you expect Kaya B's predictions for ovulation and fertile window are? 25) Which app would you prefer? Why?

<u>Fertility questions</u>

26) How much knowledge about fertility/menstrual cycles do you have?

　　( ) No knowledge

　　( ) A little knowledge ( ) Some knowledge ( ) A lot of knowledge

27) Which of the following best describes your menstrual cycle? ( ) Regular

　　( ) Irregular

　　( ) Not sure

　　( ) I do not have a menstrual cycle

28) How much do you agree with the following sentences: 28.1) I know when my next period will be.

28.2) I understand what ovulation is.

28.3) I understand what the fertile window is.

28.4) I understand how different health indicators (e.g., temperature, cervical mucus, symptoms) vary throughout the menstrual cycle.

28.5) I understand how to use the fertile window to conceive or to avoid conception. 29) Have you ever tracked your menstrual cycle?

　　( ) No

　　( ) Yes. How?

30) Have you ever tried to conceive?

　　( ) No

　　( ) Yes. For how long?

( ) Prefer not to disclose

31) Which of the following best describes your experience with pregnancy?

    ( ) I do not have children and I have no intention of having children.

    ( ) I do not have children but I am actively trying to get pregnant.

    ( ) I do not have children but am currently pregnant.

    ( ) I do not have children but I may want to have children in the future.

    ( ) I have children and no longer plan on getting pregnant again.

    ( ) I have children and I am actively trying to get pregnant.

    ( ) I have children and am currently pregnant.

    ( ) I have children and I may want to have additional children in the future.

    ( ) Prefer not to disclose

    ( ) Other. Specify

32) Have you ever sought a medical consultation or treatment for your fertility?

    ( ) No

    ( ) Yes

    ( ) Prefer not to disclose

Technology and Artificial Intelligence questions

33) Have you ever used a fertility or period tracking app?

    ( ) No

    ( ) Yes. For how long?

34) If you have used a fertility or period tracking app, which one(s) have you used?

35) If you have used a fertility or period tracking app, what was your goal? Mark all that apply.

    ( ) Track periods

    ( ) Avoid conception

    ( ) Try to conceive

    ( ) Other. Specify.

36) Are you currently using a fertility app?

    ( ) No

    ( ) Yes. Specify.

37) Have you ever used a technology system (any type, including fertility apps) that uses AI, machine learning, or data science?

    ( ) No

    ( ) Yes. Specify

    ( ) I don't know

38) Please, indicate how much you agree with the following statements:

    38.1) I generally trust AI products.

38.2) I understand how AI products work.

39) How, if at all, has the recent news about the Supreme Court decision on overturning Roe v. Wade (right to abortion) impacted your perception of Kaya and other apps like it?

Demographics questions

40) What is your age?

41) Which of the following best describes you? [Select all that apply]~

    ( ) Asian

    ( ) American Indian and Alaska Native

    ( ) Black or African American

    ( ) Hispanic or Latino

    ( ) Middle Eastern

    ( ) Native Hawaiian and Other Pacific Islander

    ( ) White or Caucasian

    ( ) Prefer not to disclose

    ( ) Prefer to self-describe. Specify

42) What is your gender? [Select all that apply]

    ( ) Woman

    ( ) Man

    ( ) Non-binary

    ( ) Prefer not to disclose

    ( ) Prefer to self-describe. Specify

43) Which of the following best describes your sexual orientation? [Select all that apply]

    ( ) Heterosexual

    ( ) Gay or lesbian

    ( ) Bisexual

    ( ) Prefer not to disclose

    ( ) Prefer to self-describe. Specify

44) What is the highest degree or level of school you have completed? (If you're currently enrolled in school, please indicate the highest degree you have received.)

    ( ) None of the below

    ( ) High school degree or equivalent

    ( ) Some college, no degree

    ( ) Associate degree

    ( ) Bachelor's degree

    ( ) Master's degree

    ( ) Professional degree

    ( ) Doctorate

( ) Prefer not to disclose

45) How much total combined money did all members of your household earn last year? ( ) $0 - $9,999

    ( ) $10,000 - $19,999

    ( ) $20,000 - $29,999

    ( ) $30,000 - $39,999

    ( ) $40,000 - $49,999

    ( ) $50,000 - $59,999

    ( ) $60,000 - $69,999

    ( ) $70,000 - $79,999

    ( ) $80,000 - $89,999

    ( ) $90,000 - $99,999

    ( ) $100,000 or more

    ( ) Prefer not to disclose

46) Do you live in an urban (more than 50,000 residents) or rural area (less than 50,000 residents)?

    ( ) Urban

    ( ) Rural

    ( ) Prefer not to disclose