JamaPlay Experimental Design

Research Goal

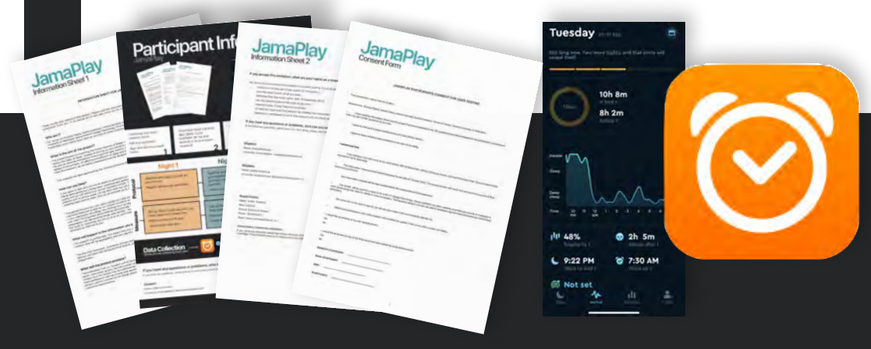
Can JamaPlay reduce the urge to use your phone to procrastinate going to sleep? We are interested to see if providing people with an alternative attention activity (JamaPlay) could help mitigate device use as a form of procrastination and therefore improve sleep. This research will help us better understand how our designed garment can affect how people focus on falling asleep.

Participants

Participants will be 3 volunteer individuals aged between 18-27 who have identified that they often use their devices before sleep, and in turn, procrastinate going to sleep/ falling asleep. All participants will be recreating the same testing environments within their own rooms and will all be using the same garment for testing.

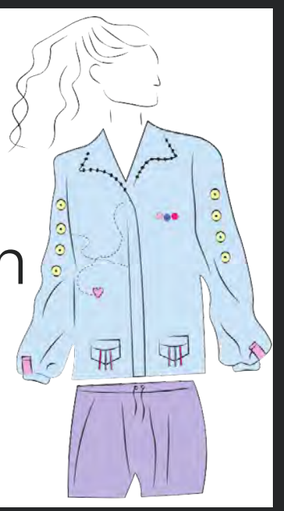
Materials/Apparatus

Participants will sign informative consent forms.
Participants will use their device to track their sleep using the Sleep Cycle app.
Participants will be given the JamaPlay garment to wear for their assigned night.
Participants will receive an instructional form that lays out how to conduct the test.



Experimental Variables

Operationalising our theoretical ideas to test our design

	Independent Variable One	Independent Variable Two	Dependent Variable One	Dependent Variable Two	Dependent Variable Three
Theoretical	Design 	Focus	Sleep	Procrastination Experience	Emotional Experience
Operational	Use of Pajamas (JamaPlay vs. no JamaPlay)	Use of Phones (Device Distraction vs. no device distraction)	SleepCycle Data 'Asleep After' before vs. after	How close to their intended bedtime did they go to bed?	Answers to a 8-Question Follow-up Interview

Controlled Variables

Variables that remain constant across all conditions

1. Use same sleep tracking app: Sleep Cycle (available for ios and android + no purchases required)
2. Dark bedroom: No additional sources of light. Phone facing down according to Sleep Cycle app instructions.
3. Quiet bedroom: try to have the environment as silent as possible with no music

JamaPlay

Experimental Design

Design

This study uses a within-subjects design looking to see if people find it easier not to use their phones before bed when using JamaPlay pyjamas compared to a routine where they do not use screens for 15min before going to sleep. It also looks to see if reducing phone use before bed reduces bedtime procrastination by comparing these conditions to a baseline of participants standard bedtime habits.

Bedtime procrastination is measured by comparing the participant's intended bedtime to the time they actually went to sleep. The effectiveness of the pyjamas will also be measured by people's subjective experience of wearing them, particularly how they made people feel about going to bed and whether having sensory engagement made it easier not to use their phones.

Hypothesis

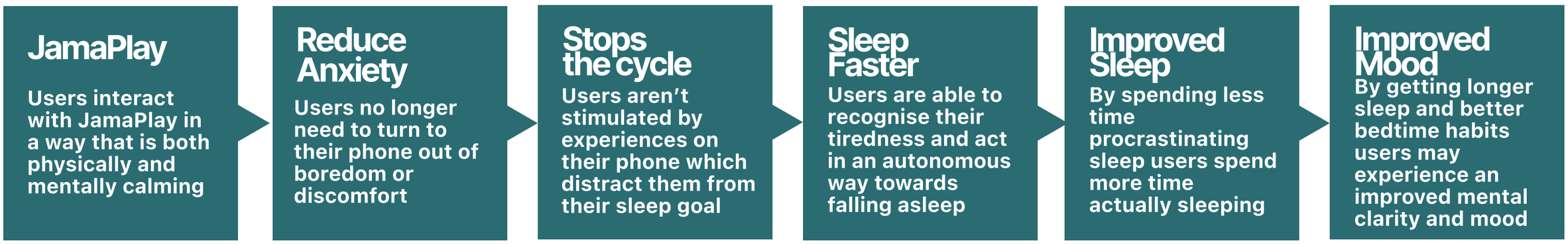
We hypothesise that participants are more likely to meet their intended bedtime when not using their phones before sleep.

Secondly we hypothesise that when wearing the JamaPlay pyjamas, participants will find it easier to not use their phones, making both the experience more positive and increasing the likelihood of adherence and repeat behaviours.

Often people use phones to reduce emotional discomfort, we suspect that not using their phones may cause participants anxiety, which in turn may make it harder for them to fall asleep.

We suspect that the JAMA play sensory interactions may help reduce this anxiety which could reduce the amount of time it takes for participants to actually fall asleep.

Supposed Effect of JamaPlay



Procedure

Exactly how we intend to carry out our experiement

1. Experimenters will find participants that are available for three nights of testing and are accessible to deliver JamaPlay to.
2. Experimenters will email participants with our consent form.
3. Participants will sign informative consent forms and return them and they will be stored on Helena's laptop.
4. Once consent is obtained then they are given the Manipulation Procedure Instructions and any questions they have will be answered.
5. Experimenters will converse with participants about the best time for their testing days and experimenters will ask for participants' intended sleep time.
6. Participants will download the Sleep Cycle app and begin the Manipulation Procedure according to the instruction form.
7. On night one of testing, participants will complete their sleep routine as per normal while measuring with the Sleep Cycle app.
8. On night two of testing, participants will try to refrain from phone use 15 minutes before bed time and remain off until asleep.
9. Participants will be given the JamaPlay garment to wear for their assigned night three along with a message or in-person instruction telling them how to use the garment by counting, fidgeting, scrolling or platting.
10. On night three of testing, participants will try to refrain from phone use while using the JamaPlay garment until asleep.
11. Once the three testing nights are finished, the garment will be picked up by the experimenter, washed and relocated to the next test.
12. Participants will be instructed in person or via message to share their sleep data with the experimenter using the share function in the app.
13. The interview will be conducted over Zoom and experimenter will take detailed notes of the participants answers.
14. Participants will be thanked for their time during a debrief at the end of the interview.
15. Data will be collated for analysis in the JamaPlay Data document.

Manipulation Procedure

How we will manipulate and measure our variables

JamaPlay

	Night 1	Night 2	Night 3
Protocol (IV)	Bedtime and sleep routine as per normal. Regular device use permitted.	Bedtime and sleep routine without device use. Device use not advised for 15 minutes prior to bed.	JamaPlay garment worn to bed. Only JamaPlay tasks allowed. Device use and other activities not advised.
Measure (DV)	Note intended sleep time. Set up Sleep cycle app and use other apps until sleep time. Measure sleep with app.	Note intended sleep time. Set up Sleep cycle app and place face phone down beside bed. Measure sleep with app.	Note intended sleep time. Set up Sleep cycle app and place face phone down beside bed. Measure sleep with app.
Rationale	This first night acts as a control condition - we can see what participants normal data is looking like and also get them used to the sleep cycle app. We can then compare data from night one to the data once we are manipulating the two independent variables to have data for our dependent variable	The second night we need to mitigate phone use and measure the extent that this reduces sleep. Our hypothesis explains how we suspect this will have a big impact and we dont want to credit all this impact straight to JamaPlay. We know staying off devices is hard though so JamaPlay should assist in night three.	The third night shows us how our JamaPlay design can reduce the urge to reach for the phone through experiential data. We can also see how long the period between their intended sleep time and their actual sleep time was and compare this to data from night two to see if JamaPlay has an even greater effect on assisting with reducing procrastination of sleep.

Controlled

Use same sleep tracking app: Sleep Cycle (available for ios and android + no purchases required)

Dark bedroom: No additional sources of light. Phone facing down according to Sleep Cycle app instructions.

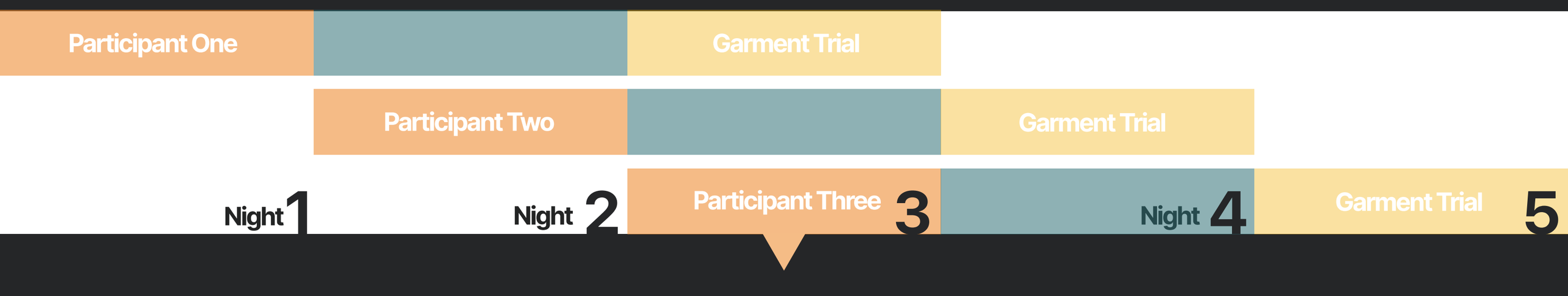
Quiet bedroom: try to have the environment as silent as possible with no music

Interview (DV)

Eight question interview that covers experience of all three nights. Conducted as a follow up to the third night and accompanied by a debfrief + expressions of gratidute for their time

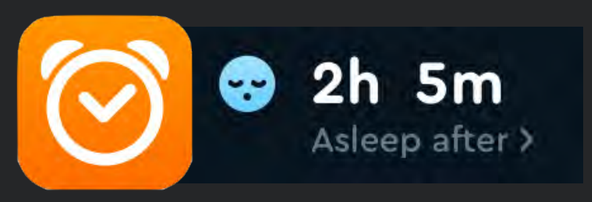
Experiment Timetable

Carrying out experiement with all participants



Data Collection

What we will collect from each trial using Sleep Cycle



Participant One: Details

Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:	Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:	Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:
e.g. 12:00pm	12:30pm	30mins	60mins								

Participant Two: Details

Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:	Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:	Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:
e.g. 12:00pm	12:30pm	30mins	60mins								

Participant Three: Details

Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:	Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:	Intended Sleep Time:	Actual Bed time:	Sleep After:	Total Delay:
e.g. 12:00pm	12:30pm	30mins	60mins								

Interview

Gathering qualitative data about experience

Key: Question / Question Design / Follow Up Angle

1. Talk to me about your experience over the past couple of nights. [broad, not leading]

2. How did you feel when wearing the JamaPlay garment? Secure, comfy,uncomfy [target emotion, not directional]

3. Talk me through your interactions with the tasks on the garment. Parts that you interacted with [narrow, target attention]

4. Do you think you were procrastinating falling asleep? If so why? [target emotion and focus]

5. Do you think the garment had any influence on your behaviour before sleeping? [narrow, procrastination? attention]

6. Did it make it easier to stay off your phone? [narrow, procrastination? attention]

7. What was your favourite part of this experience? [broad, emotion, feedback]

8. What was your least favourite part of this experience? How could we improve?[broad, emotion, feedback]

Debrief

> Expression of thanks. Inform them that their results can be pulled from the study if they choose. Inform them that we can send a copy of the data and final project we produce if they would like to see it.
>
> Send summary of user testing session if it was ticked on consent form.
> Send copy of final report to email address if it was ticked on consent form.