



CADENCE

Ask it *well*, and again

Cadence — how to turn a measurement plan into a survey participants can finish: preview what they will answer, keep only the items you need, ask for consent properly, run it in waves and bring the data home.

Ask it *well, and again*

A measurement plan is a list of scales. A survey is what a tired nurse answers at the end of a shift, and then again three months later. This volume builds the worked study's survey and shows where the plan has to bend to fit the people answering it.

Site. <https://syahmedu.github.io/cadence/>

Version. 1.0.1 (2026-10-18) · build 3702b3b+edits · 2026-10-18T15:45:22Z

Figures. Real screenshots of the live site, captured 2026-10-18 by `scripts/capture.mjs`; sample data shown in figures is labelled simulated where it is simulated.

Sources. 9 DOI-verified references, numbered in order of use. Nothing in this book is invented: counts and labels are read from the site or its published data.

Status. A user guide, not documentation of record. Where the site and this book differ, the site is right — please report it (see Version history).

Type. Fraunces, Plus Jakarta Sans and IBM Plex Mono (SIL Open Font License). Laid out with Paged.js.

Contents

01	What participants live through	4
02	Preview the participant path	5
	Why it looks like this	6
03	Keep only what you need	7
04	Ask for consent properly	9
05	What they answer	11
06	Waves, and bringing the data home	13
07	Defend it	15
08	Cadence at a glance	17
–	Glossary	18
–	References	19
–	Version history & errata	20

01

BEFORE YOU BUILD

What participants live through

Every item you add is asked of every participant at every wave. Design the survey from their side: how long, in what order, how often, and what it asks them to share.

Collecting measures at different times is one of the main procedural remedies for common method bias: the predictor's answers are less likely to colour the outcome's when they are given weeks apart ¹. Waves also let a study speak to change, but only if the interval matches how fast the construct is expected to move ². A single wave is not always wrong; it suits some questions and not others ³. What a longitudinal design always adds is burden: the same people must come back.

A SURVEY IS READY WHEN...

- ☐ Every scale in the survey answers part of the research question.
- ☐ I know how many items a participant answers per wave, and roughly how long it takes.
- ☐ The interval between waves has a reason, not just a convenient date.
- ☐ Participants know what is collected, why, and how to withdraw.
- ☐ I know how the responses will reach me after each wave.

THE WORKED EXAMPLE – CONTINUED

The study (Volumes 5–11) tests whether job autonomy buffers the link between long shifts and burnout among nurses. Volume 6 chose the measures: the **OLBI** for burnout, the **UWES-9** for engagement and the **Work Design Questionnaire's autonomy facets**. Volume 4 chose the design: two waves, resources at wave 1 and outcomes at wave 2. This volume builds that survey in Cadence.

02

BEFORE YOU BUILD

Preview the participant path

Type the constructs, pick the instruments, set the waves. The preview draws what one participant will answer, in order, before you build anything.

BEFORE YOU BUILD

What will your participants live through?

Measure Waves every

burnout

work engagement

job autonomy

ONE WAVE, IN THE ORDER PARTICIPANTS MEET IT

OLBI

✓ Exhaustion Disengagement

consent 16 items

UWES-9

Vigor Dedication Absorption

9 items

JDS

Skill Var... Task Iden... Task Sign... Autonomy Feedback ...

15 items

40 items · ~5 min

2 WAVES, EVERY 3 MONTHS FROM TODAY

① Oct 18, 2026 Jan 17, 2027 ②

WHAT THEY ANSWER FIRST

There are days when I feel tired before I arrive at work.

OLBI item 1, verbatim · Demerouti, E., Bakker, A. B., Vardakou, I., & Kantas, A. (2003)

2 × 40 = 80 answers per participant, about 5 minutes per wave. Scales come from Cadence's library of 192 validated instruments, items and citations verbatim; the match is by name, abbreviation and dimension, so check it fits your construct. Blocks are the scale's own dimensions in item order; ▼ marks a reverse-keyed item. Minutes assume 6 seconds per item plus consent, a planning guess, not a measurement.

[Build this study →](#)

FIG 2.1 The preview for *burnout*, *work engagement*, *job autonomy*, two waves three months apart. Burnout → **OLBI** (16 items, chosen over the MBI-GS); work engagement → **UWES-9** (9); job autonomy → **JDS** (15). One wave: 40 items, about 5 minutes; 2 × 40 = 80 answers per participant. Waves on 18 October 2026 and 17 January 2027. The first item, verbatim: "There are days when I feel tired before I arrive at work."

The preview matches each construct to the library of 192 instruments by name, abbreviation and dimension, with no AI. It found the planned scales for burnout and engagement. For *job autonomy* it found only the Job Diagnostic Survey, and the path shows the problem at once: the JDS is five blocks (skill variety,

task identity, task significance, autonomy and feedback), and only one of them is autonomy. Built as matched, the survey would ask 12 items the study does not need, twice.

A MATCH IS A SUGGESTION

Matching is by words, so a match means the instrument's name or dimensions contain your term, not that it measures your construct as you defined it. The site says so under the preview. Read the blocks before you press **Build this study** → .

- 1 Type your constructs, separated by commas, in **Measure** .
- 2 Under each construct, pick the instrument you chose (or **skip**).
- 3 Set **Waves** and **every** (the interval).
- 4 Read the path: block lengths, dimensions, ▼ reverse-keyed items, total items and minutes.
- 5 Press **Build this study** → ; the chosen scales and waves carry into the builder.

Why it looks like this

The participant path is drawn to the participant's scale, not the researcher's: each block's length is its number of items, in the order they will be answered, so a long instrument looks long. Length along a common baseline is read accurately and in proportion, which is the comparison that matters when deciding what to cut ⁴.

Blocks are the scale's own dimensions in item order, and ▼ marks reverse-keyed items, so the two things that most often go wrong in scoring are visible before anyone answers. Waves are laid on a line of real calendar dates from today; the spacing is the interval chosen, nothing more.

03

BUILDER

Keep only what you need

The builder takes the preview's choices and lets you cut each instrument down to the dimensions your question uses, add your own questions, and review the whole survey.

FIG 3.1 Tapping the JDS card opens its dimensions, with the source citation: Hackman & Oldham (1975). Only **Autonomy** (3 items) is kept; **Update 3 items** replaces the 15-item instrument with its autonomy subscale.

Cutting the JDS to its autonomy subscale ⁵ brings each wave from 40 items to 28. Its three items include one reverse-keyed item ("The job gives me almost no personal say in how and when the work is done."), so the subscale must be reverse-scored before it is averaged.

WORKED EXAMPLE

The plan in Volume 6 was the WDQ's autonomy facets ⁶. The WDQ is a metadata-only entry in the scale library: its items are not reproduced, so Cadence cannot pre-load them. The study has two honest options. It can obtain the WDQ items from the source and add them as custom questions, citing the source. Or it can use the JDS autonomy subscale that the library does hold, and report the change of measure and why. What it must not do is switch instruments silently.

The design also needs **shift length**, which Volume 4 planned to take from rosters. Cadence records responses anonymously under a random code, so a roster cannot be matched to a participant without a linking plan approved by the ethics committee. The alternative is to ask shift length directly, as a custom **Number** question, and accept that it is self-reported.

- 1 In **Choose Scales**, tap a selected card to open its dimensions; keep only those you need.
- 2 In **Add Custom Questions**, add what the library does not hold: Likert (1–5 or 1–7), open text, number, multiple choice, or an attention check.
- 3 In **Review & Publish**, check the scale list, item total and waves.
- 4 Mark a scale **+ Control** if it is a covariate rather than a study variable.
- 5 Press **Publish Study** ✓ to get the participant link, a QR code and the study code.

ATTENTION CHECKS

Attention-check questions are labelled in the export with an **attention_pass** column, so you can decide later, and report, how you treated participants who failed them. Decide the rule before you see the outcomes.

04

BEFORE THE FIRST QUESTION

Ask for consent properly

Participants see the consent statement before any question, and cannot begin until they agree to it.

A FEW TIPS

You've got this.

Answer each question honestly — there are no right or wrong answers. The survey adapts to you: one question at a time, no scrolling, no overwhelm.

 ~14 min

 28 questions

 Anonymous

Use **1–7** keys or arrow keys to navigate. Press **Enter** or **→** to advance.

BEFORE YOU BEGIN — YOUR CONSENT

Your participation is voluntary. You can stop at any time and you may skip questions. Your responses are recorded anonymously under a random participant code — this survey does not collect your name, email, or contact details. Your answers will be used for research purposes. If you have any questions, please contact the researcher who shared this study with you.

☐ I have read the above and voluntarily consent to take part.

[How your data is handled →](#)

Begin →

FIG 4.1 The participant's first screen for the worked study: about 14 minutes, 28 questions, anonymous. The standard consent statement is shown because the study did not set its own. **Begin →** stays disabled until the box is ticked; **How your data is handled →** explains storage.

The standard statement says participation is voluntary, questions may be skipped, responses are recorded under a random participant code, and no name, email or contact details are collected. For a real study, write your own in the builder's **Consent statement** field: who is running the study, its purpose, the ethics approval and reference number, and whom to contact. The study's ethics committee decides what it must say; the default is a floor, not a substitute.

- Each response records the time consent was given.
- After each wave, participants can download a **Consent Receipt**.
- **Delete my responses from this device** removes everything they submitted for the study from their browser. It cannot remove a copy they have already sent to you.

HOW LONG IT TAKES

The planning times disagree. The preview assumes 6 seconds per item plus consent (about 3 minutes for 28 items); the participant screen assumes 30 seconds per question (about 14 minutes). Both are stated guesses. Time two or three pilot participants, and put the measured time in the consent statement.

05

THE PARTICIPANT'S VIEW

What they answer

One question at a time, with the instrument's own wording and anchors, keyboard shortcuts, and a link to resume later.

The screenshot displays the participant's view in the Cadence interface. At the top, the header includes the Lazy Research Lad logo, the name 'Cadence', and navigation links for 'ToolsScope', 'JournalTime', and 'All Projects'. A progress bar indicates 3% completion (1/28 items, ~14 min left). The main content area shows the question: 'There are days when I feel tired before I arrive at work.' with four response options: 1 Strongly Agree, 2 Agree, 3 Disagree, and 4 Strongly Disagree. The bottom navigation bar includes buttons for 'Select', 'Next', 'Back', 'Resume link', 'A-', 'A+', and 'Next'.

FIG 5.1 Question 1 of 28: the OLBI's first item, verbatim, with its 4-point anchors (*Strongly Agree* ... *Strongly Disagree*). The header names the instrument and dimension; the bar shows progress and time left. **Resume link** saves the place.

Items appear in each instrument's own order, so the OLBI's reverse-keyed items stay mixed with the others as its authors designed. The response options are the instrument's own anchors, not a generic scale; check that the export keeps them, since the OLBI is scored 1–4 and the UWES-9 0–6.

PARTICIPANTS SEE THE LABELS

The header shows the instrument and dimension to the participant (here *Oldenburg Burnout Inventory · Exhaustion*). If your ethics committee or design prefers that participants not see construct labels, raise it before collection; it is part of what they experience.

06

COLLECT

Waves, and bringing the data home

Cadence has no server. Knowing where the responses live is part of the design, not an afterthought.

On joining, each participant gets a participant code and is told to save it: "You'll need this code to return for future waves." At wave 2 they open the same link or enter the study code, add their participant code, and the survey records the next wave under it.

STEP	WHERE THE DATA IS	WHAT HAPPENS
Participant finishes a wave	Their own browser	Responses are saved on that device; Download My Data (JSON) saves a copy as a file.
They send you the file	Your inbox or shared folder	Agree the route in advance, and say it in the consent statement.
You import it	Your browser	Analytics → Import merges the files; duplicates (same participant, wave and completion time) are skipped.
You export	A file on your computer	Export Data → Excel with three sheets (Raw Responses, Scale Means, Wave Log); Codebook as CSV; Open in ToolScope for analysis (Volume 7).

WHERE THE RESPONSES LIVE

Responses live in browsers, not on a server. A participant who clears their browser before sending the file loses that wave; a researcher who clears theirs loses imported data unless it was exported. Export after every import, and keep the files with the study's data-management plan ⁷.

- 1 Before wave 1, tell participants how to send their file, and when wave 2 opens.
- 2 After each wave, import the files received and check the pre-flight report: participants, completion of every wave, missing answers.
- 3 Remind non-returners at wave 2 by the agreed route; their participant code is how their waves join up.

- 4 Export to Excel and the codebook after every import.

07

THE OBJECTIONS YOU WILL MEET

Defend it

Reviewers read the procedure section for the places where the data could have gone wrong. Answer these before they ask.

REVIEWER

"All measures are self-reported at the same time."

YOUR ANSWER

They are not: resources were measured at wave 1 and outcomes at wave 2, three months apart, a temporal separation recommended for common method bias ¹. Say what remains self-reported.

REVIEWER

"Why three months?"

YOUR ANSWER

Give the reason the interval suits the change you expect, or say plainly that it is a practical choice and treat it as a limitation ².

REVIEWER

"How many dropped out between waves, and were they different?"

YOUR ANSWER

Report the pre-flight figures (participants at each wave, the share completing both) and compare wave-1 scores of those who did and did not return.

REVIEWER

"Your autonomy measure is not the one you proposed."

YOUR ANSWER

If the JDS subscale replaced the WDQ facets, say so, give the reason (item availability) and cite the instrument actually used ⁵.

REVIEWER

"The survey is long for nurses after a shift."

YOUR ANSWER

Report the measured pilot time, the items per wave (28 here) and what was cut to get there.

MODEL PARAGRAPH

Data were collected in two waves, three months apart, using an online survey that presented one item at a time. At wave 1, participants gave informed consent and completed measures of job autonomy, the autonomy subscale of the Job Diagnostic Survey ⁵, and of shift length. At wave 2 they completed the Oldenburg Burnout Inventory ⁸ and the nine-item Utrecht Work Engagement Scale ⁹. Responses were linked across waves by a random participant code; no names or contact details were collected.

Model paragraph for the illustrative study, assuming it switched to the JDS autonomy subscale and asked shift length directly (Chapter 3). Cadence asks the same questions at every wave; the paragraph describes the measures the analysis uses from each wave. Report what you actually did, including any change from the proposal.

08

REFERENCE

Cadence at a glance

The screens, files and limits, for when you know what you want and need to find where it lives.

PART	USE IT TO...
Before you build	Preview the participant path: matched instruments, blocks, reverse-keyed items, waves on real dates.
Create a Study	Name, description, researcher, waves, consent statement;  Generate from text pre-fills the form using the suite's AI.
Choose Scales	192 validated instruments, items and citations verbatim; tap a card to keep only some dimensions.
Custom Questions	Likert 1–5 / 1–7, open text, number, multiple choice, attention check.
Publish	Participant link, QR code, study code.
Join a Study	Participants enter the study code and, after wave 1, their participant code.
Analytics	 Import participant files,  Open in ToolsScope ,  Codebook .
Export Data	Pre-flight report and Excel (Raw Responses, Scale Means, Wave Log).

WHERE THE RECORDS COME FROM

Items, response anchors and citations come from the scale library verbatim; Cadence does not rewrite them. Minutes are stated planning guesses. The study lives in its link and the responses live in browsers, so nothing reaches a server unless you send it there. Participant links open without the research account login, by design, so respondents never have to join the research pack.

Glossary

Wave

One round of the same survey. A two-wave study asks every participant the same questions twice, at the interval you set.

Study code

The six-character code that identifies a published study. The participant link carries the whole study in the address, so no server is needed.

Participant code

A random six-character code given to each participant on first joining. They enter it to return for later waves; it links their waves without their name.

Dimension

A subscale of an instrument (for example, the OLBI's Exhaustion and Disengagement). Cadence lets you keep only some dimensions of a scale.

Reverse-keyed item

An item worded in the opposite direction to its scale, scored the other way round. Marked ▼ in the preview.

Codebook

A CSV listing every variable with its verbatim item text, scale, response anchors, reverse flag and citation.

Pre-flight report

The summary at the top of **Export Data** : submissions, participants, the share completing every wave, and missing answers.

References

Every reference was resolved by its DOI against Crossref (or DataCite) and matched on first author and year before it could be cited — 9 sources in this volume. Verification date per entry is kept in `references/verified.json`.

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Version history & errata

This guidebook is version-controlled. Corrections are made in its source, the version number is raised, and the change is recorded here and in [CHANGELOG.md](#). Report an error with the page number and the version printed in the footer.

VERSION	DATE	CHANGES
1.0.1	2026–10–18	Series back to 13 volumes (Throughline CS dropped: a separate product, not one of the Lazy Research Lad sites): covers and title pages now read 'of 13'. Text and figures unchanged.
1.0.0	2026–10–18	First edition, written as a research guide on the series' worked study: the participant path, keeping only the dimensions you need, consent, the participant's view, waves and the data flow, reviewer objections and a model procedure paragraph. Figures captured 18 October 2026 from the live site; 1 new verified reference.

Errata

No errata recorded for this version.