

UNIVERSITY
OF TWENTE.

TIJM

USER MANUAL

**THE
BMS
LAB**

Table of Contents

Introduction to TIIM	3
Before you get started.....	4
Getting started- Project registration	5
Creating a study in TIIM	7
Dashboard	10
Creating interventions.....	10
Creating modules.....	12
Creating module items	17
Start creating items	17
Preview	19
Routing	19
.....	22
Item types	23
Text answer items	24
Single line input	24
Multi line input	25
Dropdown.....	26
Yes/No.....	27
Multiple choice	28
Numerical answer items	29
Number input	29
Number slider.....	30
Number dropdown.....	31
Number choice	32
Specialized answer items.....	33
Statement.....	33
Video/Audio	34
Likert scale	35
Camera image	36
Audio recording	37
Emotion quadrant.....	38
Orbits	39
Network.....	40
Specialized drag and drop.....	41
Graph	42
Configuring a study	43
Adding modules to interventions	43
Setting timing rules.....	45
Timing rules for ESM Module.....	49
Notifications.....	51

Calculated variables.....	55
Writing the equation	55
Showing the calculated variable as feedback.....	58
<i>Managing researchers</i>	62
Editing your details.....	63
Adding researchers.....	64
<i>Managing participants</i>	68
Editing Subscription page	68
General	68
Creating pages.....	70
Screening questions.....	72
Editing email page.....	74
Editing participants page	76
Instructing first-time participants.....	80
<i>Data Metrics and Export.....</i>	82
Viewing & downloading your data metrics based on filters.....	82
Exporting your data metrics.....	84
Importing for analysis	87
Excel	87
SPSS	87
<i>Glossary</i>	88
Items list	89

Introduction to TIIM

Introducing TIIM – the Twente Intervention and Interaction Machine

Data collection is a fundamental aspect of many research studies, particularly those that are longitudinal in nature. However, traditional methods of data collection, such as paper-based surveys or face-to-face interviews, can be time-consuming and prone to errors. Mobile applications have emerged as an innovative solution to these challenges, and TIIM is one such application developed by the University of Twente (UT).

TIIM is an iOS and Android-compatible mobile application that enables researchers to collect data from study participants directly on their smartphones. The application is part of the research software provided and maintained by the BMS Lab and is aimed at providing researchers with the capability to study participants long-term or repeatedly, for example, in cohort or longitudinal studies.

To organize studies in different intervention conditions, containing flexible modules and a wide array of possibilities for survey items, such as stimuli or measurement items, TIIM offers a highly customizable web application for researchers, known as 'the dashboard'. The timing and order of items can be moderated by the researcher and push notifications can be sent to participants at specific times and in a predetermined order. Questions can be packed into modules, making it easier to manage and control the flow of data collection. Moreover, the application offers item routing and questionnaire conditions that enable the adaptation of studies to individual participants, thereby enhancing the quality of the data collected.

TIIM's data collection capabilities make it a valuable tool for researchers. The application saves data in the interface (dashboard), making it easy to track and analyze results. Moreover, TIIM studies can be adapted to individual participants, making it easier to conduct complex and long-term studies. At the end of a study, TIIM provides researchers with a downloadable CSV file, making it easy to export the results for analysis and reporting. TIIM is designed to be ethical and responsible, so ethical approval is mandatory.

With the assistance of this manual, you will be able to:

- Register your research.
- Create a project in TIIM.
- Create studies, interventions, modules and items.
- Set up timing rules for interventions.
- Promote engagement using push notifications.
- Create calculated variables.
- Enroll and manage researchers.
- Enroll, register and manage participants.
- Download and export the data for analysis.

Before you get started

Checking conditions

The use of software, equipment, spaces, and other resources of the BMS-Lab, you will need to register your project. However, you will also need to check if your study and intended use of these materials meet our policies, terms, and conditions. Below are the main topics you will have to consider.

Scope

Your project needs to be in line with the vision and scope of the BMS-Lab. This means it must be related to the social sciences and aiming at the benefit of society. It has to be aligned with the BMS-Lab values of Innovation, Creativity and Pioneering. And, of course, your study needs to be scientifically rigorous, feasible and realistic.

For more information, visit: <https://bmslab.utwente.nl/policies/>

Ethical approval

Every study involving human participants requires authorization from UT. If you intend to conduct research involving people, it is necessary to submit your research proposal for ethical evaluation. This requirement applies to all types of research within the Faculty of Behavioral Science that involve humans, whether indirectly through analysis of files or social media, or directly through experiments, surveys, or interviews. Tryouts, calibration, development and preparation of experiments are exempt of approval.

For more information, visit: <https://www.utwente.nl/en/bms/research/ethics/>

Data management

You are liable for all the data collected in or with the help of the BMS-Lab. This means you will be entirely responsible for all data produced in your study, including, and not limited to, its collection, storage, safekeeping, anonymization, and processing.

For more information, visit: <https://www.utwente.nl/en/bms/research/support/>

Getting started- Project registration

Once you have designed your research project, it is time to register it with the BMS Lab. By registering your project, you will assure it complies with the BMS-Lab and UT requirements, and it will grant you access to a variety of resources, such as software, equipment, or facilities. You can register your project at the following address: <https://bmslab.utwente.nl/register-project/>

1. On the registration page, you will be reminded of the requirements for registration.
2. Once you have met all conditions, you can click on – REGISTER YOUR PROJECT –
3. You will be directed to the login page:



Internal (University of Twente)

After logging in with your UT account, you will be directed to the registration system dashboard.

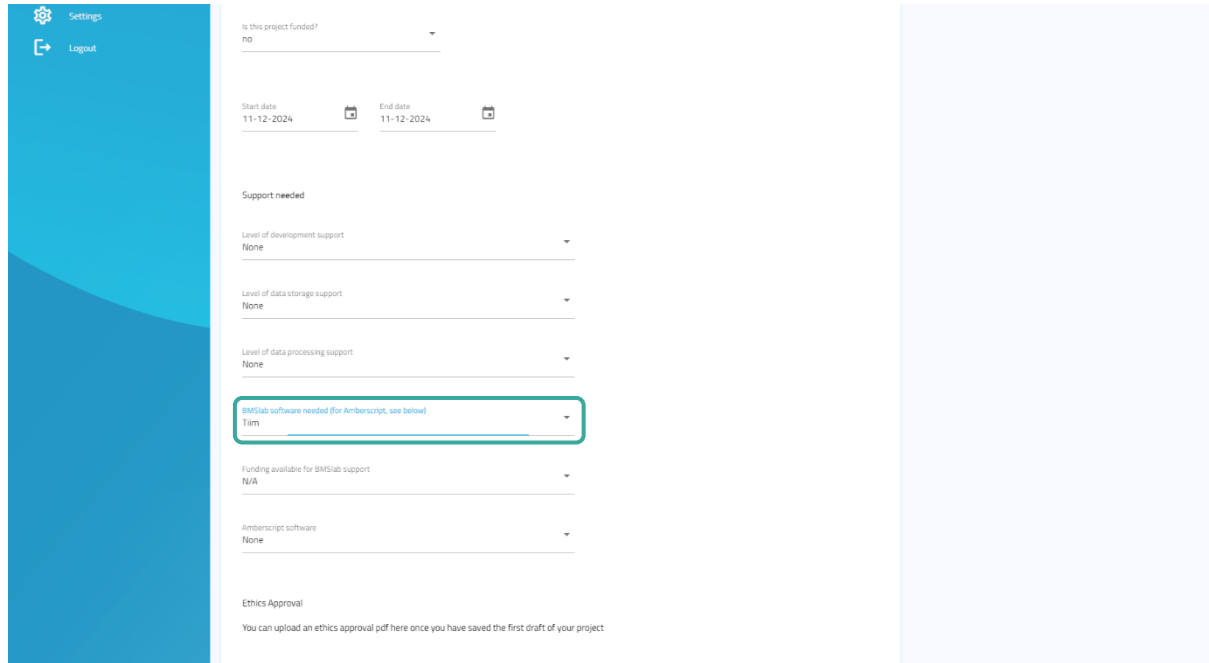
External (Outside of the University of Twente)

As a new users, you will need to:

1. Enter your username and password.
2. Then, select – CLICK TO REGISTER –.
3. You will get a verification email.
4. After clicking on – VERIFY –, you can go back to the project registration website and click on – EXTERNAL –.
5. Insert your login information and click on – LOG-IN –.
6. You will be directed to the registration system dashboard.

Project registration system

1. Go to – PROJECT REGISTRATION – : Click on – CREATE NEW PROJECT –.
2. You will need to fill out a registration form, with details of your project, and upload your ethical approval. Scroll down and in the field BMS Lab software needed, select **TIIM**.



The screenshot shows a web form for project registration. On the left is a blue sidebar with 'Settings' and 'Logout' links. The main form area has a light blue background. It contains several fields: 'Is this project funded?' with a dropdown set to 'no'; 'Start date' and 'End date' both set to '11-12-2024' with calendar icons; a 'Support needed' section with three dropdowns for 'Level of development support', 'Level of data storage support', and 'Level of data processing support', all set to 'None'; 'BMSlab software needed (for Amberscript, see below)' with a dropdown set to 'TIIM' (highlighted with a red box); 'Funding available for BMSlab support' set to 'N/A'; and 'Amberscript software' set to 'None'. At the bottom, there is an 'Ethics Approval' section with a note: 'You can upload an ethics approval pdf here once you have saved the first draft of your project'.

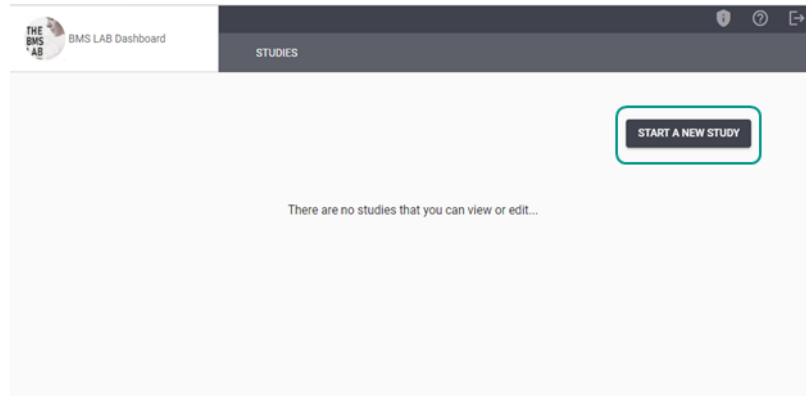
Once your request has been approved, you will be able to access the Dashboard through the BMS lab user service.

Creating a study in TIIM

Upon approval, you will have access to the **TIIM** dashboard, and you will be able to create your study. First, log in to **TIIM**: <https://dashboard.tech4people-apps.bms.utwente.nl/login>

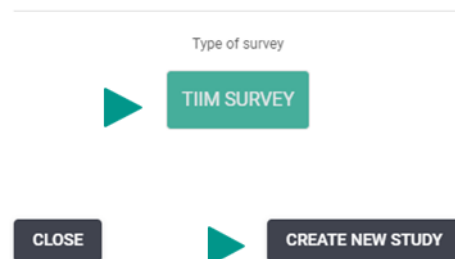
To create your own study, follow these steps:

1. Click on – START NEW STUDY –



Select new study type

2. Select study type – **TIIM** SURVEY –.
3. Click on – CREATE NEW STUDY –.



Filling the details

1. Fill in the study title and descriptio

A screenshot of the 'Study details' form in the TIIM dashboard. The form is titled 'Study details' and includes fields for 'Study title', 'Short description', and 'Languages'. The 'Study title' field contains 'Mock study'. The 'Short description' field contains 'Mock study'. The 'Languages' field shows 'English' selected. There is a 'SELECT IMAGE' button and a 'SELECT color of study' section with checkboxes for 'Use biometric data collection (Google Fit & Health Kit)', 'Use digital phenotyping data collection (Battery life & GPS)', and 'Allow participants to view answers in e-portfolio mode'. An 'UPDATE STUDY' button is at the bottom right.

2. Select a language

The TIIM app supports several languages: English, German, Dutch, French, Italian and Spanish. The automatically selected language is English.



For each language added, you will need to add their corresponding translations in the title sections.

3. Choosing the start & end date

You can type in the start and end dates of your study. Alternatively, you can use the calendar widget to select the dates by clicking on the icon on the right side of the field.

4. Selecting a color of study (optional)

You can customize the appearance of your study by selecting a color.

5. Enabling biometrics data collection or digital phenotyping (optional)

The TIIM app supports the collection of three types of biometric data with the assistance of wearable devices: heart rate, steps, and sleep. These data are collected through the Google Fit and Health Kit platforms. Similarly, TIIM can collect info on battery life and GPS from the smartphones of the participants.



For more information see the [Editing Sensor Configuration section](#).

6. Finalizing creation of study

To finalize your study, click on – CREATE STUDY –.

Once you have created your first study, you will be directed to the dashboard and the card to study will be visible.



You can still edit this information any time **before** you start collecting data.

Understanding studies in TIIM

A study in TIIM comprises four main elements.

1. Study

A **study** refers to a research project or investigation that utilizes the TIIM platform for survey-based data collection and analysis. Within the study, you will design your survey instrument, setting the structure, question, and conditions. A study may comprise one or more interventions.

2. Interventions

In TIIM, **intervention** refers to unique instances or conditions within the data collection process that are designed to assess the effects of a specific treatment or condition. Thus, they represent different conditions or groups within the survey, such as a control group that does not receive any intervention, an experimental group that receives a specific treatment or condition, or pretests and posttests to measure changes before and after an intervention. These terms help categorize and differentiate the data collection process in TIIM. Interventions may contain one or more modules.

3. Modules

A **module** refers to a self-contained section or subset of questions within a larger survey instrument. Modules are often used to group related questions that pertain to a particular topic or construct. They help organize the survey and make it more manageable for respondents. For instance, in a customer satisfaction survey, there may be separate modules for assessing product quality, customer service, and delivery experience, each with a set of questions tailored to that specific aspect. A module consists of one or more items.

4. Items

Items are individual units of inquiry within a survey. They are the specific prompts or queries presented to respondents to gather information or opinions. Each item typically focuses on a single topic or aspect of interest. Examples of survey items include multiple-choice questions, rating scales, open-ended questions, or demographic inquiries. The responses to these items are used to collect data and analyze the survey results.

Dashboard

In the dashboard, you will be able to see all your studies hosted and conducted with **TIIM**. Each study will be represented by its own card.

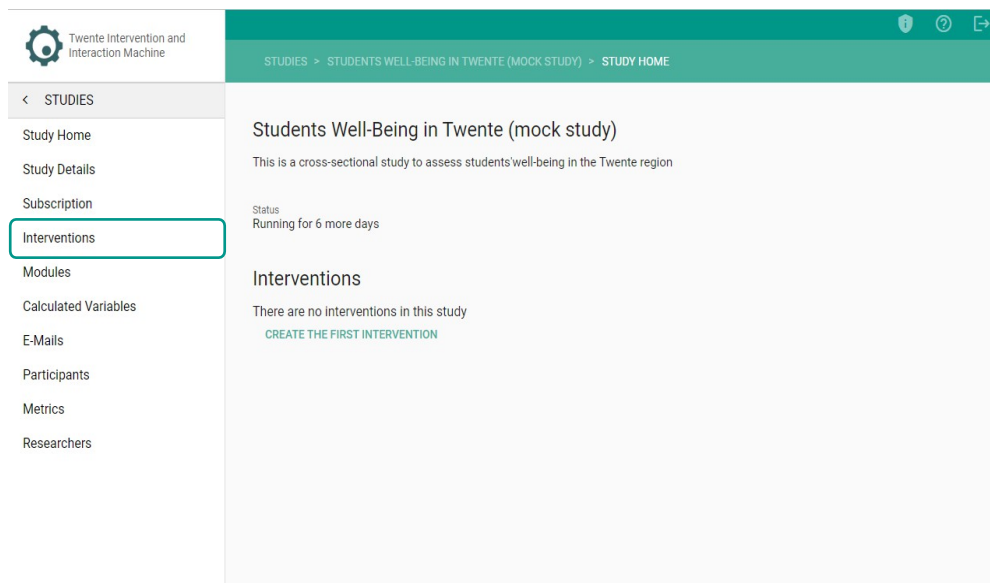
From the card, you can delete your study, make a copy of it (duplicate) and open it. Once you click on – OPEN – you will be directed to the dashboard page of your study.

Creating interventions

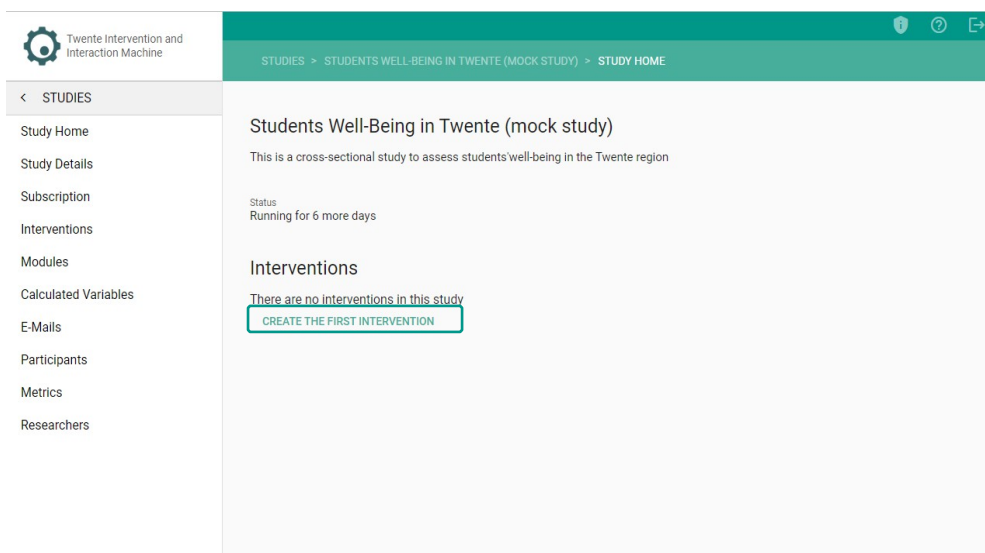
Interventions are the conditions within your research, e.g., control and experimental groups, pre- and posttests, etc.

To create your first intervention, follow these steps:

1. On the sidebar, click on the – INTERVENTION – page.



2. Click on – CREATE THE FIRST INTERVENTION –.



3. In – TITLE –, name your intervention (e.g., Control Group, Experimental Group, etc.).*
 4. In – DESCRIPTION –, specify your intervention (e.g., control group for study SWBT).*
- *The title and description are meant for organizational purposes only and will not be visible to participants.

The screenshot shows the 'Twente Intervention and Interaction Machine' interface. On the left is a sidebar with a gear icon and a menu: STUDIES, Study Home, Study Details, Subscription, Interventions (highlighted), Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main area has a green header with 'STUDIES > STUDENTS WELL BEING IN TWENTE (MOCK STUDY) > INTERVENTIONS'. Below the header, there's a section titled 'Interventions' with a message: 'There are no interventions that you can view or edit'. To the right is a 'Create new intervention' form with fields for 'Title' and 'Description', an 'Image' section with a 'SELECT IMAGE' link, a checkbox for 'Set as default', and a 'SAVE INTERVENTION' button.

5. Optionally, you can add an image. For optimal results in mobile devices, images should have a resolution of at least 1500 pixels.
6. Click on – SAVE INTERVENTION-. The intervention will be updated.

Now the Intervention page will show you a card for your intervention. You can open, duplicate or delete your intervention. When you click on open, your intervention details will open on the right side of the screen. Here, for the selected intervention, you can – SET AS DEFAULT –. This means that once the participant is subscribed to the study they will be automatically assigned to this intervention.

The screenshot shows the 'Twente Intervention and Interaction Machine' interface after creating an intervention. The sidebar is the same. The main area has a green header with 'STUDIES > STUDENTS WELL BEING IN TWENTE (MOCK STUDY) > INTERVENTIONS'. Below the header, there's a section titled 'Interventions' with a 'NEW INTERVENTION' button. Below that is a search bar and a 'Sort by' dropdown. A card for 'First intervention' is highlighted, showing 'This is the first intervention' and a 'modules' link. Below the card are buttons for 'DELETE', 'DUPLICATE', and 'OPEN'. To the right is a 'First intervention' details panel with tabs for 'GENERAL' and 'MODULES'. The 'GENERAL' tab is active, showing fields for 'Title' (First intervention), 'Description' (This is the first intervention), 'Image' (with a 'SELECT IMAGE' link), a checkbox for 'Set as default', and a 'SAVE INTERVENTION' button.

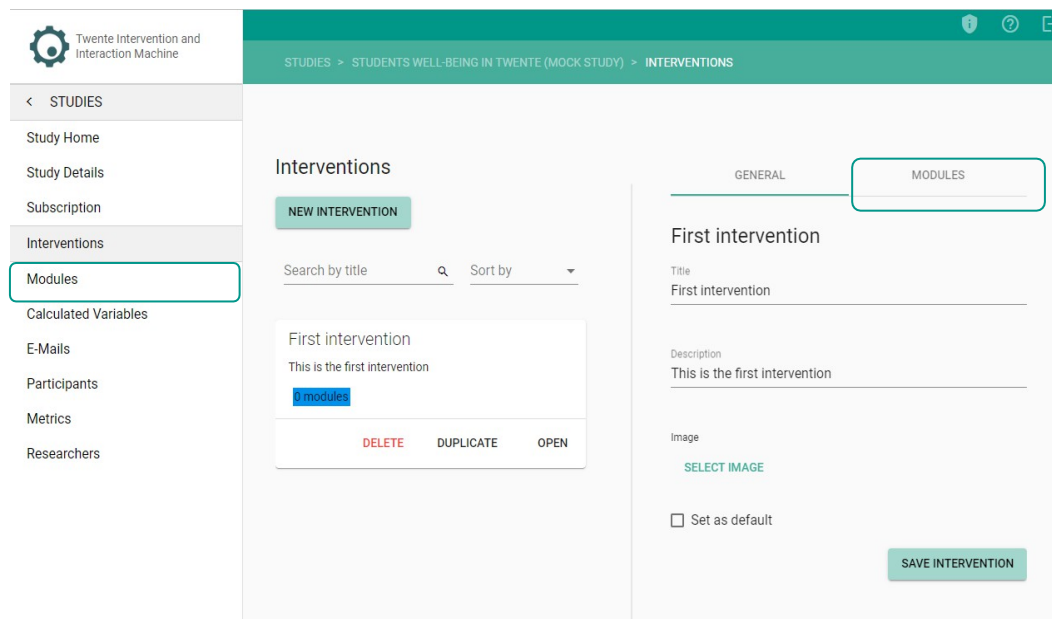
Within the created intervention, you can add [modules](#) to your intervention. If you already have existing [modules](#), see the [Adding Existing Modules to Interventions](#) section.

Creating modules

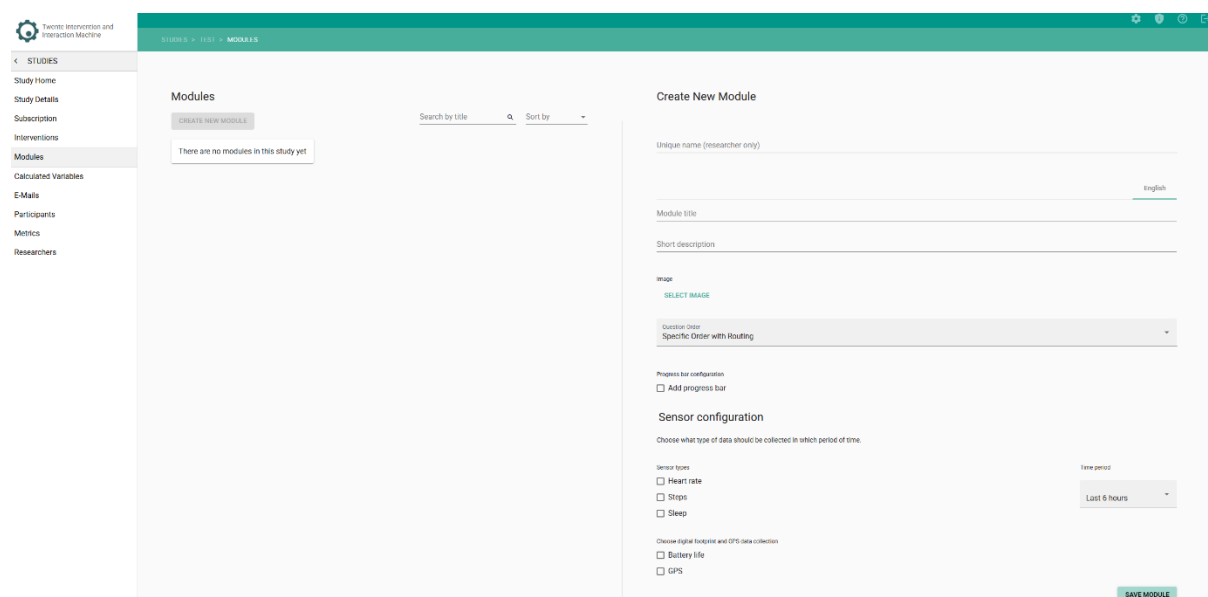
A Module is a collection of survey items within your research. These collections help you organize your questions in groups that are easy to manage during your study.

To create a Module, follow these steps:

1. On the sidebar, click on – MODULES –. Alternatively, you can click on the – MODULES – tab on the Interventions page.



The following page will open.



2. Fill in the – UNIQUE NAME – field. This is only visible to you, and you can name it after a construct or identifier you choose. This will help you to manage your modules easily within the study. A module ID will be automatically generated after saving the module.

The screenshot shows the 'Create New Module' form in the Twincor Intervention and Interaction Machine. The form is divided into two main sections: 'Modules' on the left and 'Create New Module' on the right. The 'Modules' section has a 'CREATE NEW MODULE' button and a message 'There are no modules in this study yet'. The 'Create New Module' section contains several fields and options: 'Unique name (researcher only)' (highlighted with a red box), 'Module title', 'Short description', 'Image' (with a 'SELECT IMAGE' button), 'Question Order' (set to 'Specific Order with Routing'), 'Progress bar configuration' (with an 'Add progress bar' checkbox), 'Sensor configuration' (with checkboxes for 'Heart rate', 'Steps', and 'Sleep'), and 'Time period' (set to 'Last 6 hours'). A 'SAVE MODULE' button is at the bottom right.

3. Fill in the – MODULE TITLE – and its – SHORT DESCRIPTION –. This might also be visible to participants and will help them understand the different segments within the survey.

This screenshot is identical to the previous one, showing the 'Create New Module' form. In this view, the 'Module title' and 'Short description' fields are highlighted with a red box, indicating the next step in the process.

4. Adding an image.
Click on – SELECT IMAGE –.

5. Choosing question order

TIIM allows you to choose among three different configuration of question order for presenting your module items within a survey. The question order has to be setup right from the beginning, when creating a new module. The three different question order configurations are:

- Specific Order with routing: Items in a module will be presented in a predefined order. This predefined order follows the order to which the items were created within the module. Scenario: Five items are created in this module: Participants will be presented with item 1 – item 2 – item 3 – item 4 – item 5.
- Randomization per module: The order of items within a specific module will be randomized for each participant in the survey. Each participant in the study therefore gets the items in different orders. Scenario: Five items are created in this module: Participants could be presented with item 4 – item 1 – item 3 – item 5 – item 2.
- Randomization per category: Categories are configured at the module level and attached to individual items within that module. With one category, items within that category will be randomized. With two or more categories, items are be randomized within each category but presented in a defined order among the defined categories. The same categories will not be presented next to each unless there are no more items left in one of the categories.
 - Scenario: One category with five items are created in this module. Participants will be presented with category1: item 4 – category1: item 1 – category1: item 3 – category1: item 5 – category1: item 2.
 - Scenario: Two categories with five items each are created in this module. Participants will be presented with category1: item2 – category 2: item 5 – category 1: item 4 – category 2: item 1 – category 1: item 1 – category 2: item 3, etc.

The screenshot shows the 'Create New Module' interface in the TIIM system. The left sidebar contains navigation links: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules (selected), Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main content area is split into two panels. The left panel, titled 'Modules', shows a 'CREATE NEW MODULE' button and a message 'There are no modules in this study yet'. The right panel, titled 'Create New Module', contains the following fields and options: 'Unique name (researcher only)' (text input), 'Module title' (text input), 'Short description' (text input), 'Image' (with a 'SELECT IMAGE' button), 'Question Order' (dropdown menu set to 'Specific Order with Routing'), 'Progress bar configuration' (checkbox labeled 'Add progress bar'), and 'Sensor configuration' (checkboxes for 'Heart rate', 'Steps', 'Sleep', 'Battery life', and 'GPS', plus a 'Time period' dropdown set to 'Last 6 hours'). A 'SAVE MODULE' button is located at the bottom right of the form.

6. Adding a progress bar (optional)

By selecting – ADD PROGRESS BAR – option, participants will be able to estimate how many questions they have already answered and estimate their time to complete the survey. You can see the [Progress Bar](https://youtu.be/W8LP3w55fPs?si=Pr0x9678FI13CZ8Z) instructional video through the following link: <https://youtu.be/W8LP3w55fPs?si=Pr0x9678FI13CZ8Z>

The screenshot shows the 'Create New Module' form in the Twincor Intervention and Interaction Machine. The form is divided into several sections:

- Unique name (researcher only):** A text input field.
- Module title:** A text input field.
- Short description:** A text input field.
- Image:** A section with a 'SELECT IMAGE' button.
- Duration Order:** A dropdown menu with 'Specific Order with Routing' selected.
- Progress bar configuration:** A section with a checkbox labeled 'Add progress bar', which is highlighted by a red box.
- Sensor configuration:** A section with the text 'Choose what type of data should be collected in which period of time.' and a list of sensor types: Heart rate, Steps, and Sleep. There is also a 'Time period' dropdown menu with 'Last 6 hours' selected.
- Choose digital footprint and GPS data collection:** A section with checkboxes for 'Battery life' and 'GPS'.
- SAVE MODULE:** A green button at the bottom right.

7. Editing sensor or phenotyping data collection (if biometric and/or digital phenotyping data collection enabled)
If your study opted for **Biometric Data**, you have to select which data to collect- heart rate, steps, or sleep and establish the time period for biometric data collection. Similarly, if you opted to collect digital phenotyping data, you will need to collect what type of phenotyping data you would like to collect.

This screenshot is identical to the one above, showing the 'Create New Module' form. A red box highlights the 'Sensor configuration' section, which includes the text 'Choose what type of data should be collected in which period of time.' and a list of sensor types: Heart rate, Steps, and Sleep. There is also a 'Time period' dropdown menu with 'Last 6 hours' selected.

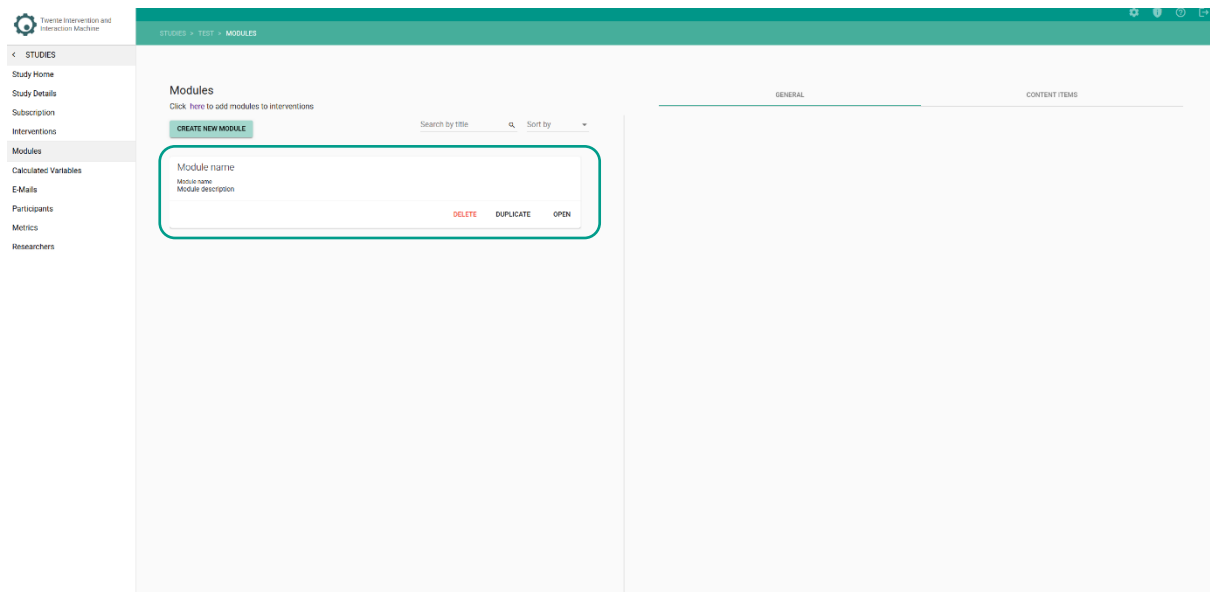


iOS phones can only share sleep and awake data, whereas Android phones can share the type of sleep (light, deep or rem).

8. Finalizing creation of module

- Click on – SAVE MODULE –.
- The module page will be updated.

Now the Module page will show you a card for your module. You can open, duplicate or delete your module. When you click on – OPEN –, your module details will open on the right side of the screen. You will now be able to start adding **items** to your module.

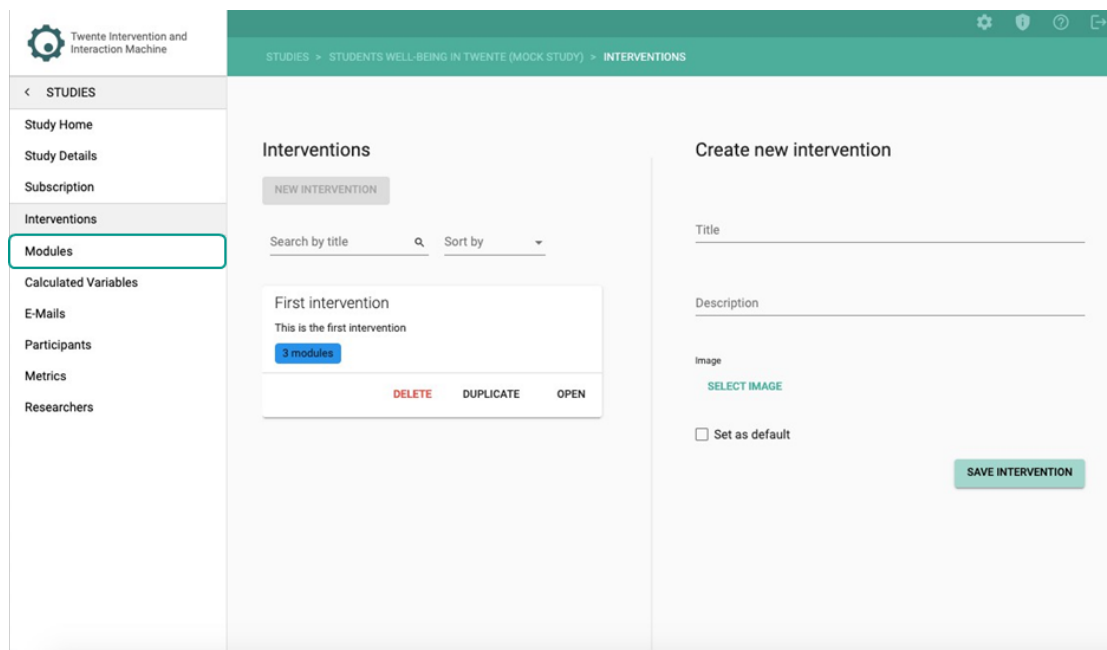


Creating module items

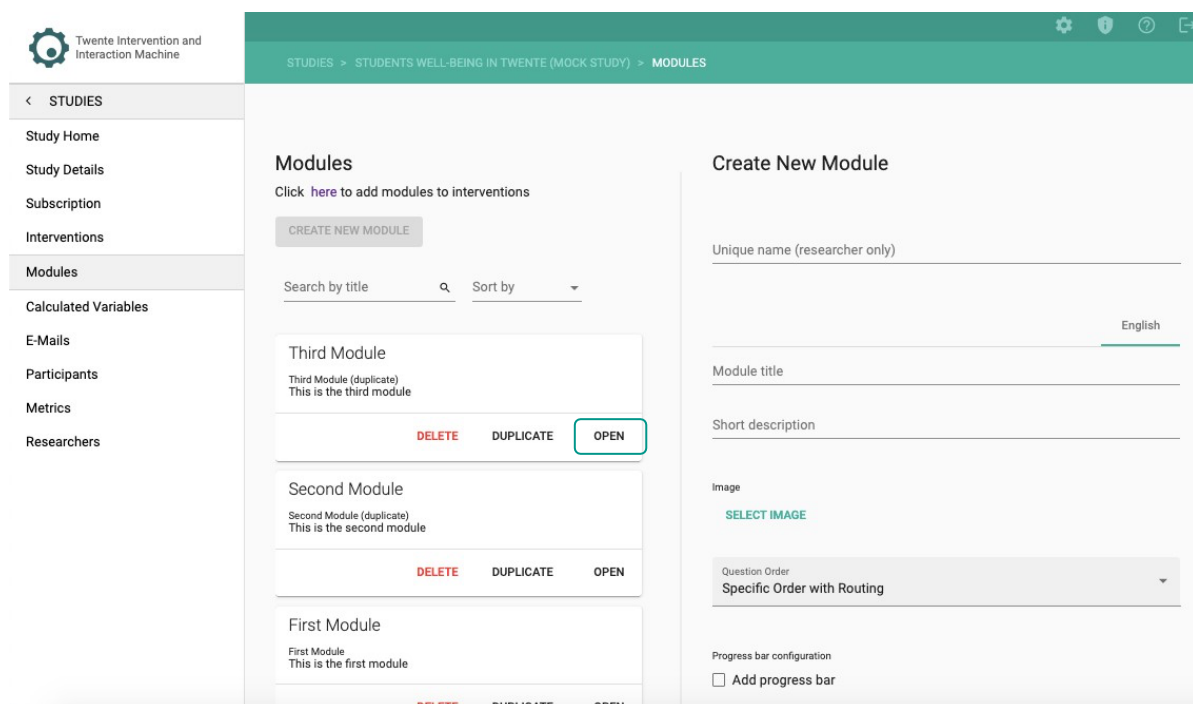
TIIM is capable of creating 19 different survey items to meet the needs of your study and allow you to collect data in the most suitable and precise manner. The items are designed with utmost flexibility, allowing you to tailor them precisely to your desired outcomes. With a mobile-friendly design, respondents can conveniently participate in surveys from their smartphones, ensuring maximum accessibility and engagement. You can see the [Creating Items](https://youtu.be/mcjJJJ6lwRE?si=FvIGOLRB9INBBYpU) instructional video through the following link: <https://youtu.be/mcjJJJ6lwRE?si=FvIGOLRB9INBBYpU>

Start creating items

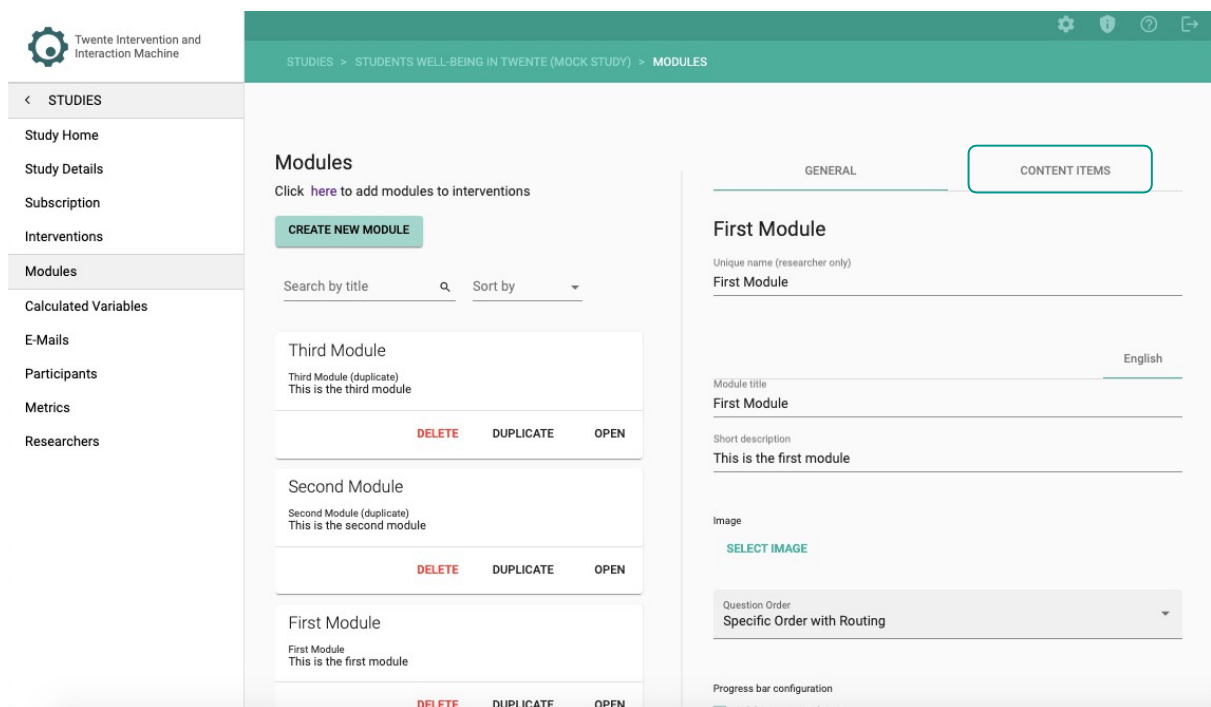
1. On the sidebar, click on the – MODULES – page.



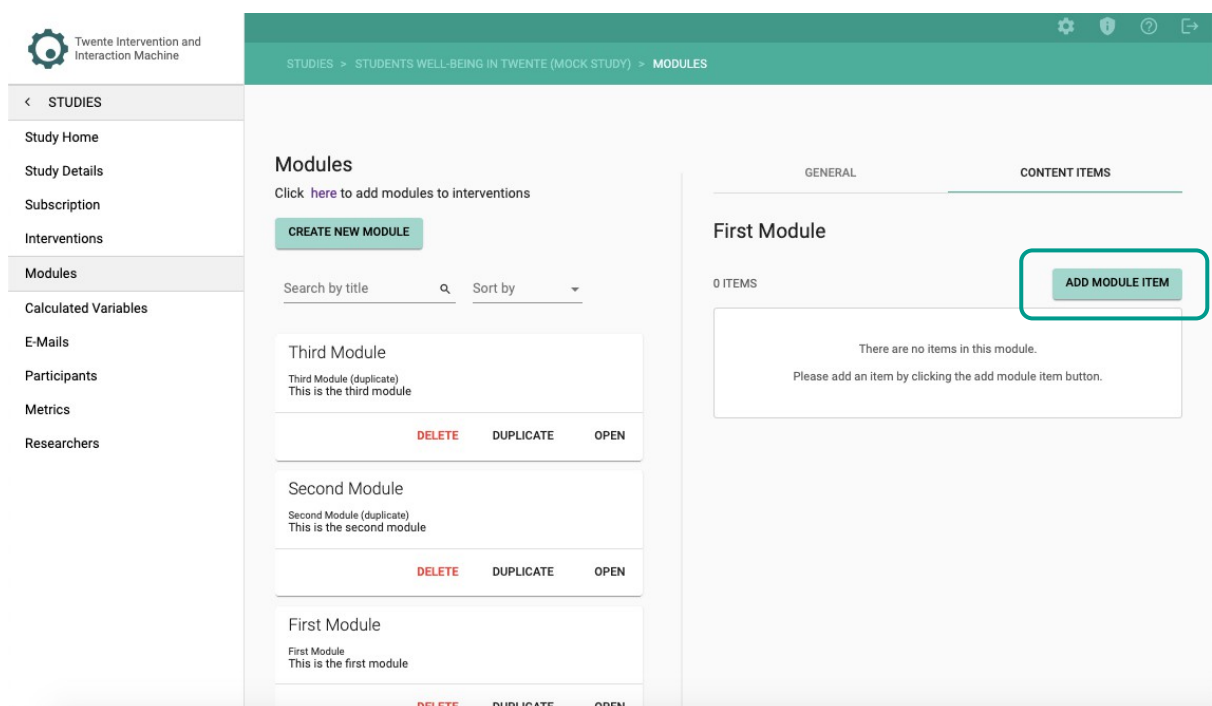
2. Within the module card, click on – OPEN –.



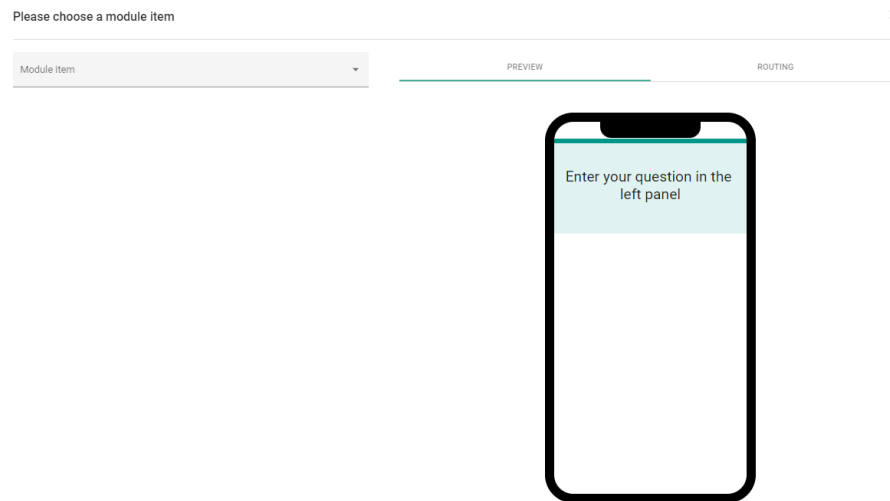
3. On the right-side panel, click on – CONTENT ITEMS –.



4. Click on – ADD MODULE ITEM –.

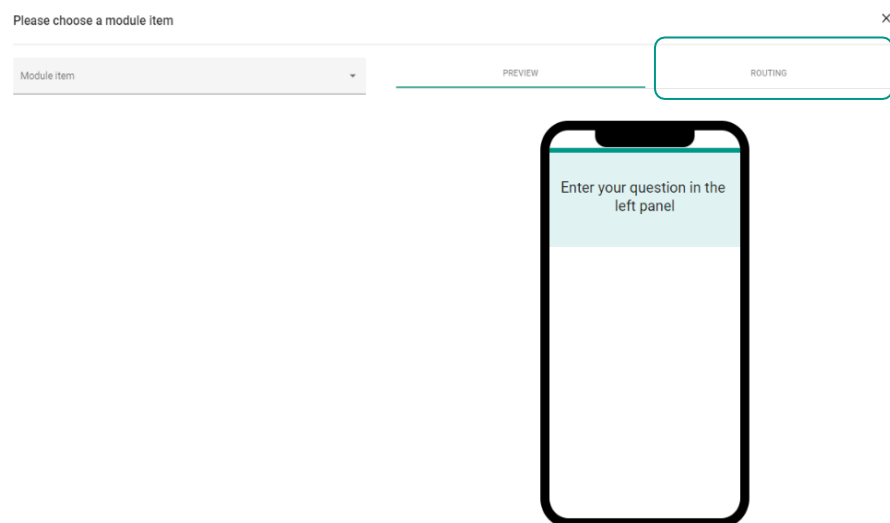


5. A new page will open



Preview

The Preview tab allows you to visualize how the item will be displayed to participants on their mobile devices.

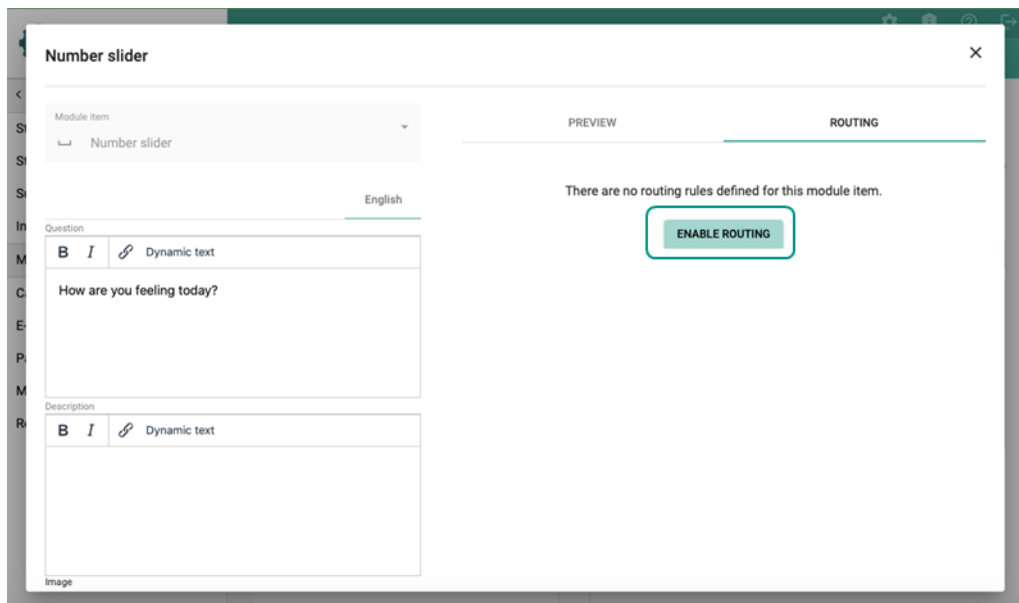


Routing

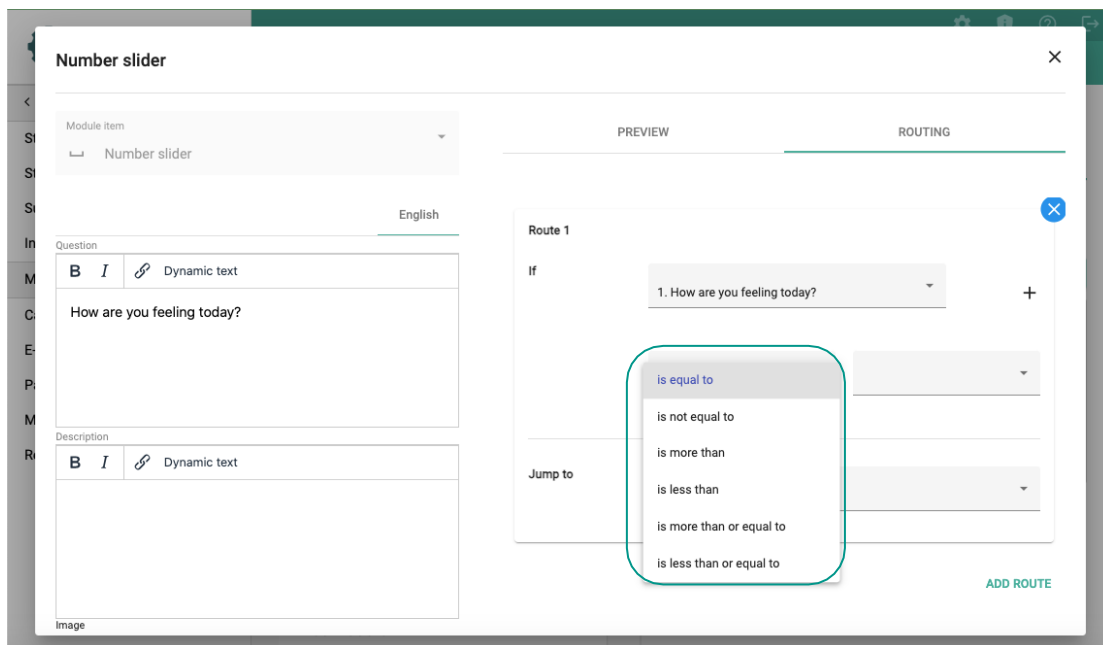
The **Routing** tab allows you to define the routing rules for the survey item. This means that based on the participant's answer, the participant is directed to a specific question with the same module. Routing within a module is only possible if you have 3 or more numerical type items with the exception of the second to last item or last item. You can see the **Routing** instructional video through the following link: <https://youtu.be/oZ6HeoBFT1s?si=WGM4Han6m67Mm3VI>

1. After creating different numerical items within a module, open one item.
2. In the preview screen, click – ROUTING – on the right side.

3. Click on – ENABLE ROUTING –.



4. Select the item's condition when the participant gives x answer within the item.
 - The options are – is equal to –, – is not equal to –, – is more than –, – is less than –, – is more than or equal to –, or – is less than or equal to –.



- And the participant's answer is shown as a value or name of the Likert scale.

Number slider

Module item
Number slider

English

Question
B I Dynamic text
How are you feeling today?

Description
B I Dynamic text

Image

PREVIEW ROUTING

Route 1

If

1. How are you feeling today?

is equal to

1
2
3
4
5
6

Jump to

2. How are you feeling today?

- Select to which item the participant would jump if the participant gives x answer within the item.

Number slider

Module item
Number slider

English

Question
B I Dynamic text
How are you feeling today?

Description
B I Dynamic text

Image

PREVIEW ROUTING

Route 1

If

1. How are you feeling today?

is equal to

1

Jump to

2. How are you feeling today?

ADD ROUTE

Third Module

- If you want to add more than one route, click on – ADD ROUTE –.

- After you finish adding your routes, click on – SAVE ROUTING –.

Item types

On the left-side of the page, you will be able to create your survey items. To start creating items, select the type of survey item you want to create in the drop-down menu. There are 19 different options for survey items which are categorized into 3 main types. You will find the instructions for each one of them in this manual.

Text answer items:

Single-line input

Multi-line input

Dropdown

Yes/No

Multiple choice

Numerical answer items:

Number input

Number slider

Number dropdown

Number choice

Specialized answer items:

Statement

Video/Audio

Likert scale

Camera image

Audio recording

Emotion quadrant

Orbits

Network

Specialized

Drag and Drop

Graph

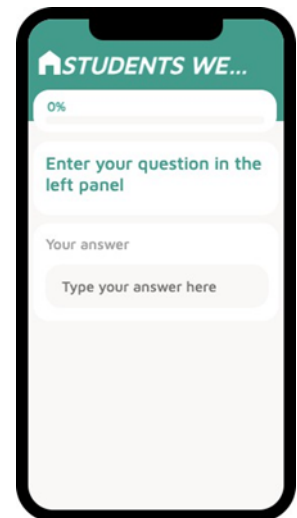
Text answer items

Single line input

A **Single-line Input** item allows the participant to answer a specific question by **typing an answer** in a field. This type of item is more appropriate for **shorter** answers.

Creating a single-line input item

1. Click on – ADD MODULE ITEM –.
2. Select Single-line input in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Answer limit

7. You can select the length of possible answers by determining the maximum number of characters.
8. Click on – MAXIMUM NUMBER OF CHARACTERS –.
 - Select or type the desired limit of characters.

Finalizing item

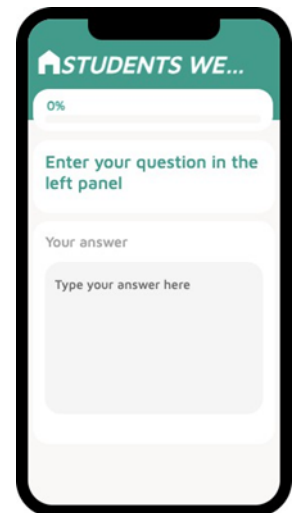
9. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Multi line input

A **Multi-line Input** item allows the participant to answer a specific question by **typing an answer** in a field. This type of item is more appropriate for **longer** answers, and they allow the participant to view their inputs in multiple lines on the screen.

Creating a multi-line input item

1. Click on – ADD MODULE ITEM –.
2. Select Multi-line input in the Module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on Select image.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Answer limit

7. You can select the length of possible answers by determining the maximum number of characters.
8. Click on – MAXIMUM NUMBER OF CHARACTERS –.
 - Select or type the desired limit of characters.

Finalizing item

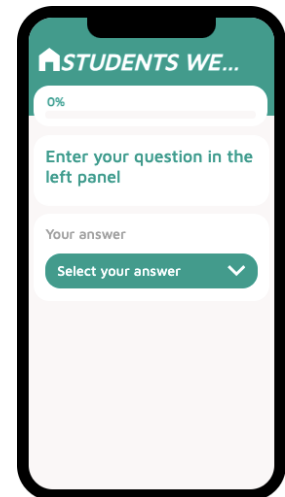
9. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Dropdown

A **Dropdown** item allows the participant to answer a specific question by **selecting a string (text) value** from a dropdown menu. The answer options can be determined by the researcher, and they can be randomly organized.

Creating a dropdown item

1. Click on – ADD MODULE ITEM –.
2. Select Dropdown in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on – SELECT IMAGE –
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining string (text) options

7. Click on the – CHOICES – box.
8. Add each answer option in a separate line.

Randomizing answer options

9. If you want the **TIIM** app to randomize the options order for each participant, you can select the *Randomized choices* checkbox.

Finalizing item

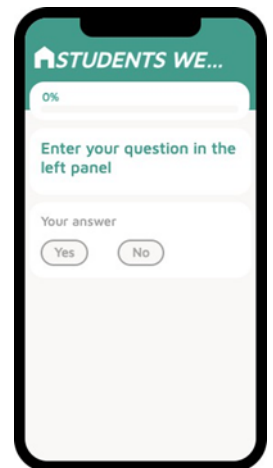
10. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Yes/No

A **Yes/No** item allows the participant to answer a specific question by ***choosing between two possible answers***. The values on the button labels can be determined by the researcher.

Creating a Yes/No item

1. Click on – ADD MODULE ITEM –.
2. Select Yes/No in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining button labels

7. Determine button labels
 - Click on the Left/Right labels field and add text.

Finalizing item

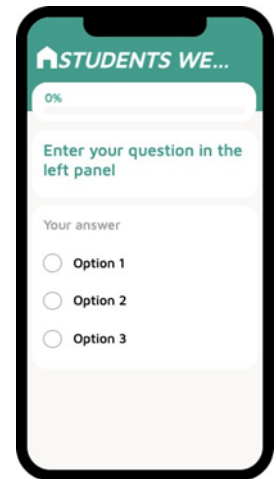
8. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Multiple choice

A **Multiple-Choice** item allows the participant to answer a specific question by **selecting one or more string (text) values** from a screen menu. The answer options can be determined by the researcher, and they can be randomly organized.

Creating a Multiple-Choice Item

1. Click on – ADD MODULE ITEM –.
2. Select Multiple choice in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining string (text) options

7. Click on the – CHOICES – box.
8. Add each answer option in a separate line.
9. Select or type the minimum number of possible answers
10. Select or type the maximum number of possible answers.
11. If you want participants to add other possible answers, select – ALLOW OTHER OPTIONS –.

Randomizing answer options

12. If you want the **TIIM** app to randomize the options order for each participant, you can select the *Randomized choices* checkbox.

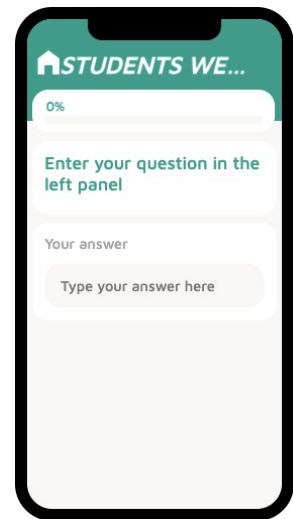
Finalizing item

13. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Numerical answer items

Number input

A **Number Input** item allows the participant to answer a specific question by **writing down** a value in the answer field. The minimum and maximum valid values in the numerical range can be determined by the researcher. These numeric values can be later used to compose other survey items or calculate other variables within the **TIIM** app.



Creating number input number

1. Click on – ADD MODULE ITEM –.
2. Select Number input in the module item drop-down menu.
3. In the Question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.

Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining numerical range

7. Click on the – MINIMUM – value field.
 - Select or type the minimum value in the range.
8. Click on the – MAXIMUM – value field.
9. Select or type the maximum value in the range

Using for numeric calculation

If you want the **TIIM** app to consider the input values for numeric calculations (Calculated Variables) within the app, select the checkbox next to – USED FOR NUMERIC CALCULATION–.

- You need to create a unique name for a numeric calculation.

Finalizing Item

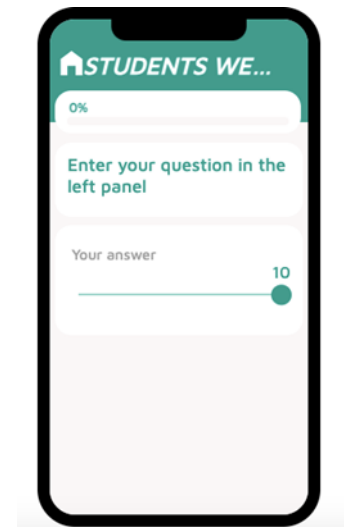
13. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Number slider

A **Number Slider** item allows the participant to answer a specific question by **sliding a pointer** to a specific value on a line. The minimum and maximum valid values in the numerical range can be determined by the researcher. These numeric values can be used to compose survey items or calculate variables within the **TIIM** app.

Creating a number slider item

1. Click on – ADD MODULE ITEM –.
2. Select the Number slider in the Module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining numerical range

7. Click on the – MINIMUM – value field.
 - Select or type the minimum value in the range.
8. Click on the – MAXIMUM – value field.
 - Select or type the maximum value in the range.
9. Click on – STEP – size.
 - Select or type the step size (interval between values).

Button Labels

10. Click on the Left/Right Labels field and add text.

Finalizing item

If you want the **TIIM** app to consider the input values for numeric calculations within the app, select the checkbox next to – USED FOR NUMERIC CALCULATION –.

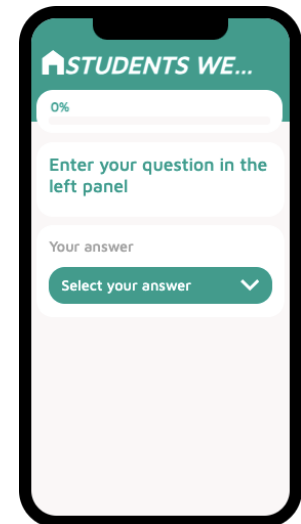
- You need to create a unique name for a numeric calculation.

Finalizing Item

11. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Number dropdown

A **Number Dropdown** item allows the participant to answer a specific question by **selecting a numerical value** from a dropdown menu. The minimum and maximum valid values in the numerical range can be determined by the researcher. These numeric values can be later used to compose other survey items or calculate other variables within the **TIIM** app.



Creating a number slider item

1. Click on – ADD MODULE ITEM –.
2. Select Number dropdown in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.

Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining numerical range

7. Click on the – MINIMUM – value field.
 - Select or type the minimum value in the range.
8. Click on the – MAXIMUM – value field.
 - Select or type the maximum value in the range.
9. Click on – STEP – size.
 - Select or type the step size (interval between values).

Using for numeric calculation

If you want the **TIIM** app to consider the input values for numeric calculations within the app, select the checkbox next to – USED FOR NUMERIC CALCULATION –.

- You need to create a unique name for a numeric calculation.

Finalizing Item

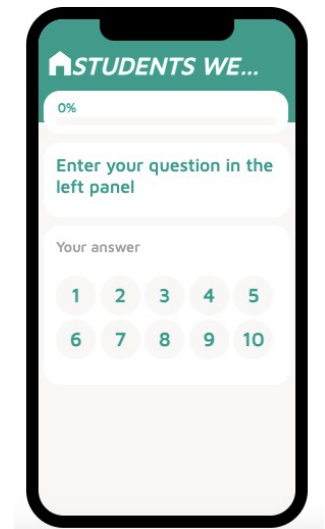
10. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Number choice

A **Number Choice** item allows the participant to answer a specific question by **selecting a numerical value** on the screen. The minimum and maximum valid values in the numerical range can be determined by the researcher. These numeric values can be later used to create other survey items or calculate other variables within the **TIIM** app.

Creating a number slider item

1. Click on – ADD MODULE ITEM –.
2. Select Number choice in the Module item drop-down menu.
3. In the Question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining numerical range

7. Click on – STEP – size.
 - Select or type the step size (interval between values).
8. Button Labels
 - Click on the Left/Right Labels field and add text.

Using for numeric calculation

If you want the **TIIM** app to consider the input values for numeric calculations within the app, select the checkbox next to – USED FOR NUMERIC CALCULATION –.

- You need to create a unique name for a numeric calculation.

Finalizing item

9. Click on – SAVE –.
 - You will be directed to the modules dashboard.

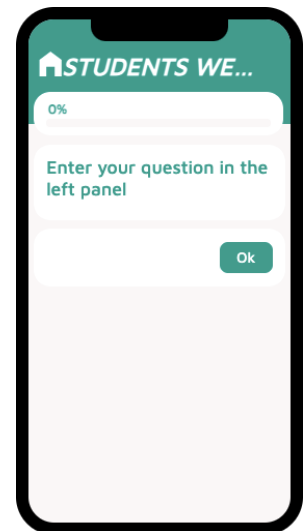
Specialized answer items

Statement

A **Statement** item is a written message that the researcher may want to communicate to participants at any time during a survey. It may be a greeting, an instruction or any other relevant information that do not require an immediate action or response from the participant.

The **TIIM** app allows you to share the following items:

- **Text:** our message will appear as a survey item in the app. The Dynamic Text feature allows you to customize your message with participants details, such as name or email. You can also add images or videos to your message.
- **Image:** for optimal results in mobile devices, images should have a resolution of at least 1500 pixels.
- **Video:** video contents must be hosted either in YouTube or Vimeo.



Creating a statement item

1. Click on – ADD MODULE ITEM –.
2. Select Statement in the module item drop-down menu.
3. In the statement field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.

Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch video ON (optional)
 - Insert video URL (only YouTube and Vimeo are accepted).

Button Label (optional)

7. Click on the button label field and add text.

Finalizing item

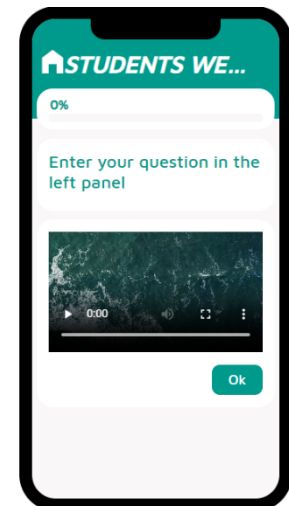
8. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Video/Audio

A **Video/Audio** item is an audio and/or visual message that the researcher may want to communicate to participants at any time during a survey. The main difference with the Statement item, is that in Video/Audio you can upload your own file and not a URL from a streaming service. The **TIIM** app allows you to share the following items:

- Text: our message will appear as a survey item in the app. The dynamic text feature allows you to customize your message with participants details or other responses, such as name or email.
- Video/Audio: media file size should not be larger than 3mb.

Participants cannot react to **Video/Audio** items. However, to proceed, they must acknowledge their viewing by clicking a button. The default label for the button is **OK**, but you may customize it.



Creating a Video/Audio item

1. Click on – ADD MODULE ITEM –.
2. Select Video/Audio in the module item drop-down menu.
3. In the statement field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.

Adding image or video (optional)

5. Click on – SELECT VIDEO OR AUDIO –.
 - Upload your file. Files larger than 3mb are not accepted by the system.

Button Label (optional).

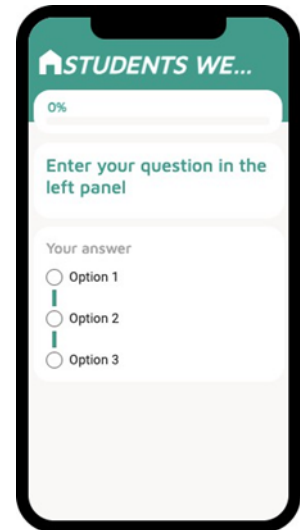
6. Click on the button label field and add text.

Finalizing item

7. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Likert scale

A **Likert Scale** item allows the participant to answer a specific question by **selecting string (text) values** from within a range of options. They are a commonly used rating scale for measuring the degree of agreement or disagreement with a statement by offering a range of response options, typically from "strongly disagree" to "strongly agree."



Creating a Likert scale item

1. Click on – ADD MODULE ITEM –.
2. Select Likert scale in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.

Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Determining scale options

7. Click on the – CHOICES – box.
8. Add each answer option in a separate line.
9. Remember to add them in the appropriate order within the range.
10. If you want participants to add other possible answers, select *Allow other Option*.

Using for numeric calculation

If you want the **TIIM** app to consider the input values for numeric calculations within the app, select the checkbox next to – USED FOR NUMERIC CALCULATION –.

- You need to create a unique name for a numeric calculation.

Finalizing item

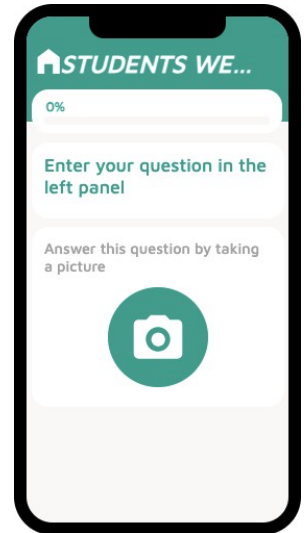
11. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Camera image

A **Camera Image** item allows participants to ***take a picture or upload an image from the camera from their mobile devices***, upon request. You may also add an image to the survey item, if necessary.

Creating camera image item

1. Click on – ADD MODULE ITEM –.
2. Select Camera image in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Adding an image or video (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image.
6. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Finalizing item

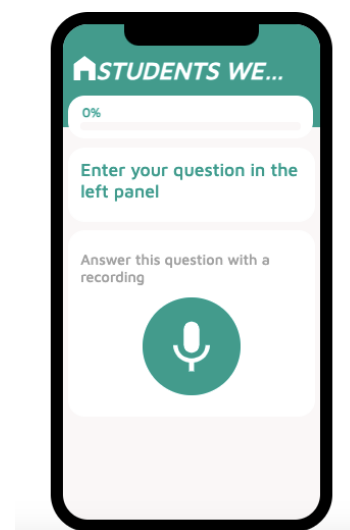
7. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Audio recording

An **Audio Recording** item allows participants to **send an audio recording** upon request. There is the possibility to have the audio transcribed. You may also add an image to the survey item, if necessary. The participant will need to allow the app to record and access information on their device.

Creating audio recording item

1. Click on – ADD MODULE ITEM –.
2. Select audio recording in the module item drop-down menu.
3. In the question field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.



Enabling audio transcription

5. If you would like to have the audio items transcribed, switch transcription ON.
 - When answering, the participants will be asked to indicate the language (English, Dutch and German are supported) and number of speakers.
 - The participant can also play back the audio, remove it and record an audio again before going to the next question or completing the module.
 - The transcription may take a few minutes, depending on the length.
 - Researchers can read the transcription in the download file.

Adding an image or video (optional)

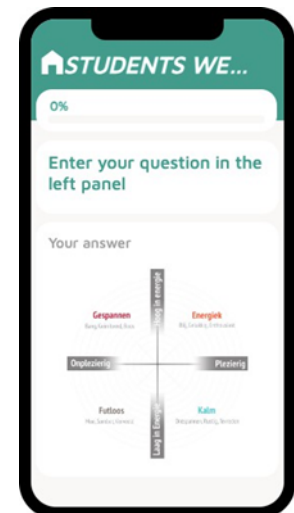
6. Click on – SELECT IMAGE –.
 - Upload your image.
7. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Finalizing item

8. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Emotion quadrant

The **Emotion Quadrant** is a visual representation that categorizes emotions based on two dimensions, typically valence (positive/negative) and arousal (low/high), allowing respondents to indicate their emotional state by selecting a point within the quadrant that corresponds to their current emotional experience. Participants are requested to ***drag a pointer to a desired location within the quadrant***, and the obtained values are calculated based on the pointer's coordinate. The image used in the Emotions quadrant is selected by the researcher.



Creating an emotion quadrant item

1. Click on – ADD MODULE ITEM –.
2. Select – EMOTION QUADRANT –in the module item drop-down menu.
3. In the Statement field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the Description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.

Adding an image (optional)

5. Click on – SELECT IMAGE –.
 - Upload your image. The image must be squared (1:1 ratio) and the resolution may not exceed 2000 pixels.

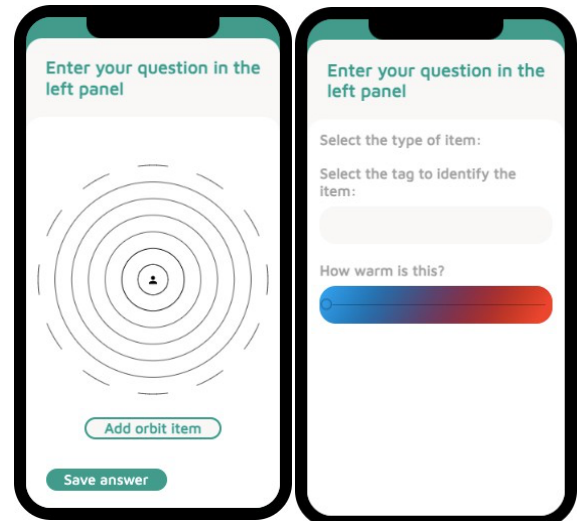
Finalizing item

6. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Orbits

In an Orbits item, participants are requested to ***select an item and place it on a concentric circle***.

The orbits matrix collects three different values: the relative distance of the object to the center, the tag used to identify the item, the value the participant attributed as perceived “warmth” in the sliding bar, and the orbit image. In Orbits, you may add up to 10 items, each identified by a different icon.



Creating an orbits item

1. Click on – ADD MODULE ITEM –.
2. Select – ORBITS – in the Module item drop-down menu.
3. In the statement field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the Description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
5. Select or type number of desired orbits (up to 10 concentric circles).

Customizing item

You may customize and rename items to suit your survey question. You cannot add or modify icons.

6. Type in the name of your item in – NAME OF THE ITEM –.
7. Select an icon for the item.
8. Click on – ADD ITEM –.

Reuse of orbits item

As an additional resource, the **TIIM** app allows you to save the item set you have created to be used in other survey items in your study.

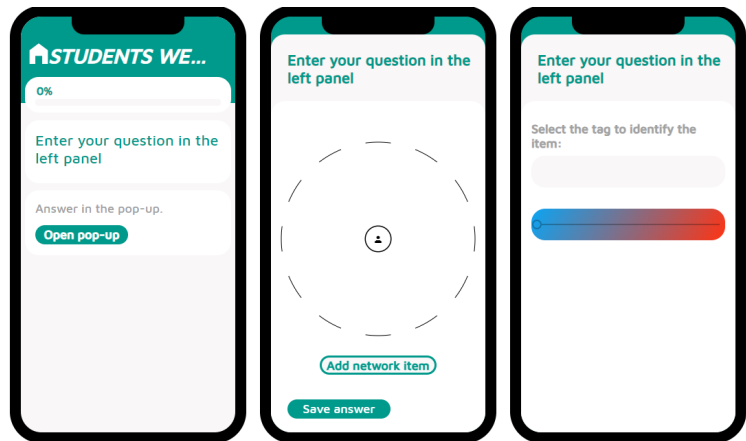
Finalizing item

9. Click on – SAVE –.
 - You will be directed to the modules dashboard.

Network

The Network item asks participants to add a label identifying the item, indicate the warmth of the item and then place it on one of the lines within the circle image as a response.

The Network matrix collects two different values: the relative distance of the object to the centre, the value the participant attributed as perceived “warmth” in the sliding bar, and the network image. In a Network item, participants choose the icons and their corresponding labels. The number of items may be limited by the researcher (max.10).



Creating a network item

1. Click on – ADD MODULE ITEM –.
2. Select – NETWORK – in the module item drop-down menu.
3. In the statement field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the Description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
5. Add the question to be used in the **warm slider bar**.
6. Name the left side label (cold/blue side).
7. Name the right side label (hot/red side).
8. Select or type number of desired orbits (up to 10 concentric circles).

Reuse of network item

As an additional resource, the **TIIM** app allows you to save the item set you have created to be used in other survey items in your study.

Finalizing item

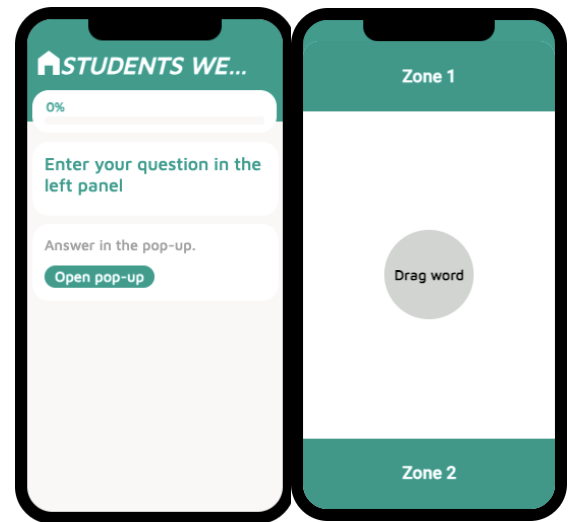
9. Click on – SAVE –.
- You will be directed to the modules dashboard.

Specialized drag and drop

The **Specialized Drag and Drop** item participants are asked to categorize an item by dragging and dropping it into a group or category. This allows the participant to interact with the survey by manipulating the items or option provided. Only one answer is considered valid.

Creating specialized drag and drop item

1. Click on – ADD MODULE ITEM –.
2. Select – SPECIALIZED DRAG-AND-DROP – in the module item drop-down menu.
3. In the statement field, insert your text.
 - Customizing your message: click on DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
5. If you select the *Hide Info Part* feature, questions and drag-and-drop feature will be displayed separately.



Adding image or video (optional)

6. Click on – SELECT IMAGE –.
 - Upload your image.
7. Switch Video ON.
 - Insert video URL (only YouTube and Vimeo are accepted).

Creating zones and objects

8. Determine which zone will correspond to the valid answer – top or bottom –.
9. You can customize each zone with its unique color, audio and labelling.
 - The audio feature indicates right and wrong answers. You may use the default audio or add a new sound file.
10. You can label each zone or add a word to it. The drag is the moveable object.
 - Choose color of the object.
 - Write word to be contained in the object.

Finalizing item

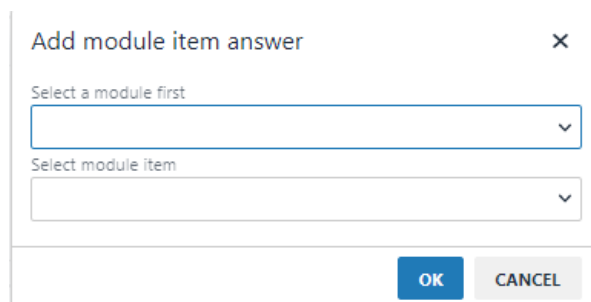
11. Click on – SAVE –.
 - a. You will be directed to the modules dashboard.

Graph

A **Graph** item provides participants with a visualization of data based on their inputs during the study. The **TIIM** application can create graphs that will enable the participants to see their data over time or as a result of a calculated variable. When creating a graph over time, the y-axis will show the module item's score while the x-axis will show its completion date. This is not a query item, so participants only need to click an acknowledgement button to proceed.

Creating a graph item

1. Click on – ADD MODULE ITEM –.
2. Select – GRAPH – in the Module item drop-down menu.
3. In the statement field, insert your text.
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
4. In the Description field, insert additional information (optional).
 - Customizing your message: click on – DYNAMIC TEXT –.
 - Select the items you want to automatically be inserted in your message.
5. In the Add dynamic text variable field, click in – DYNAMIC TEXT –.
 - The following prompt will appear:



Add module item answer

Select a module first

Select module item

OK CANCEL

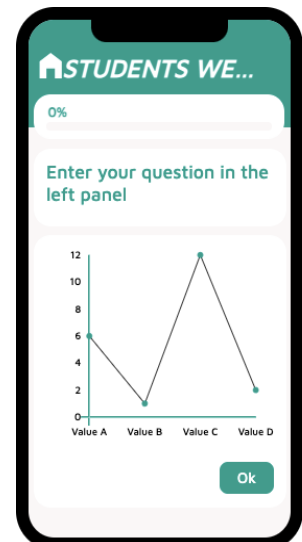
- Select the module containing the desired item.
- Select the item from within the module.
- Repeat procedure for each variable.

Labeling

6. Click on the Button Label field and add text.
7. Click on the Y axis field and add text.
8. Click on the X axis field and add text.

Finalizing item

9. Click on – SAVE –.
 - You will be directed to the Modules dashboard.

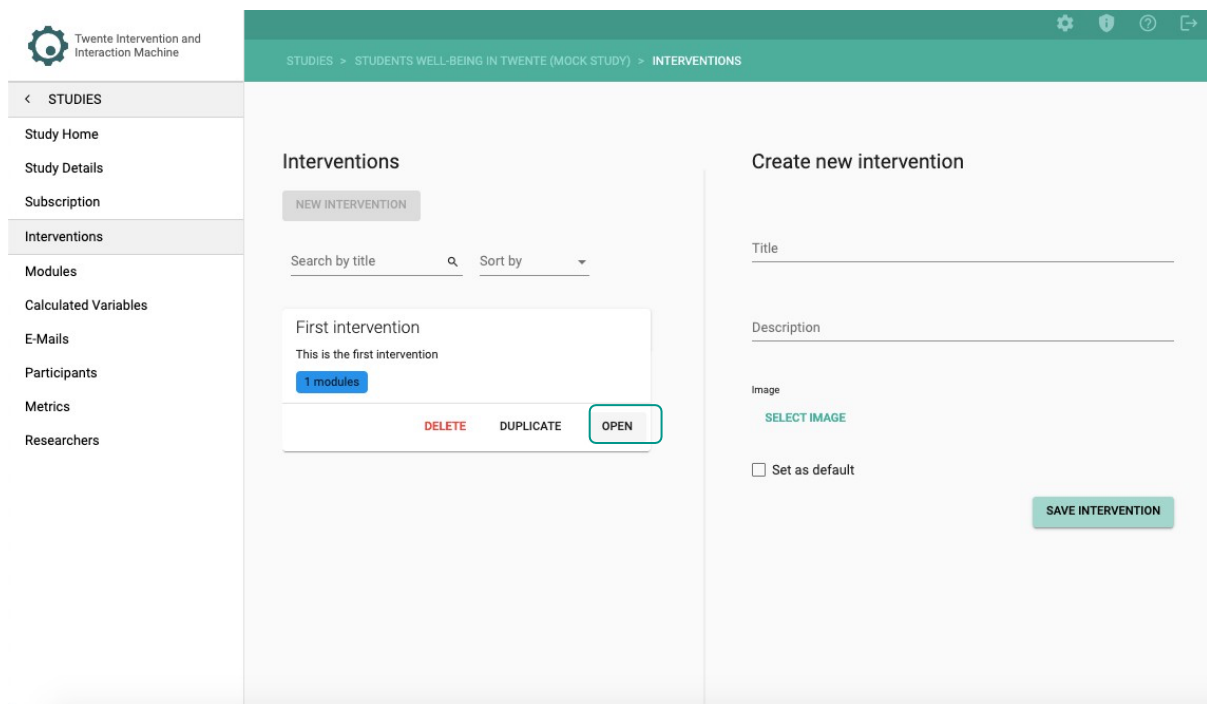


Configuring a study

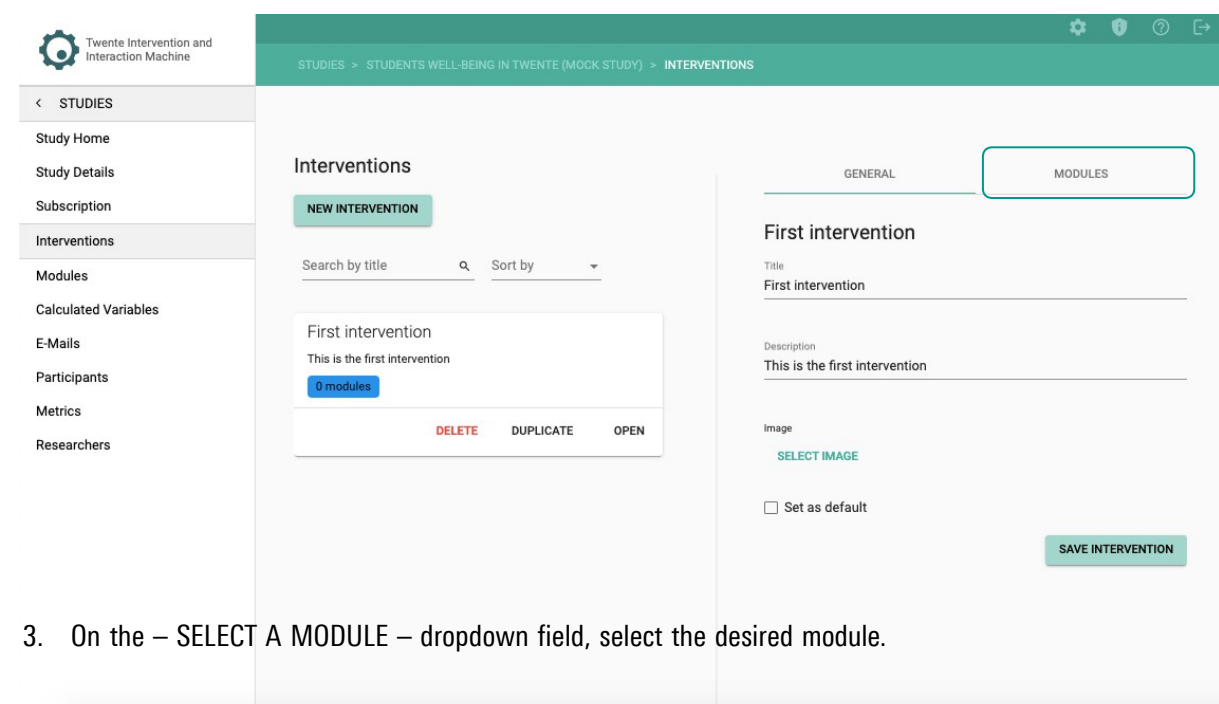
Adding modules to interventions

Once you have created a few modules, you can add them to different interventions in the same study. To add existing modules to an intervention, follow these steps:

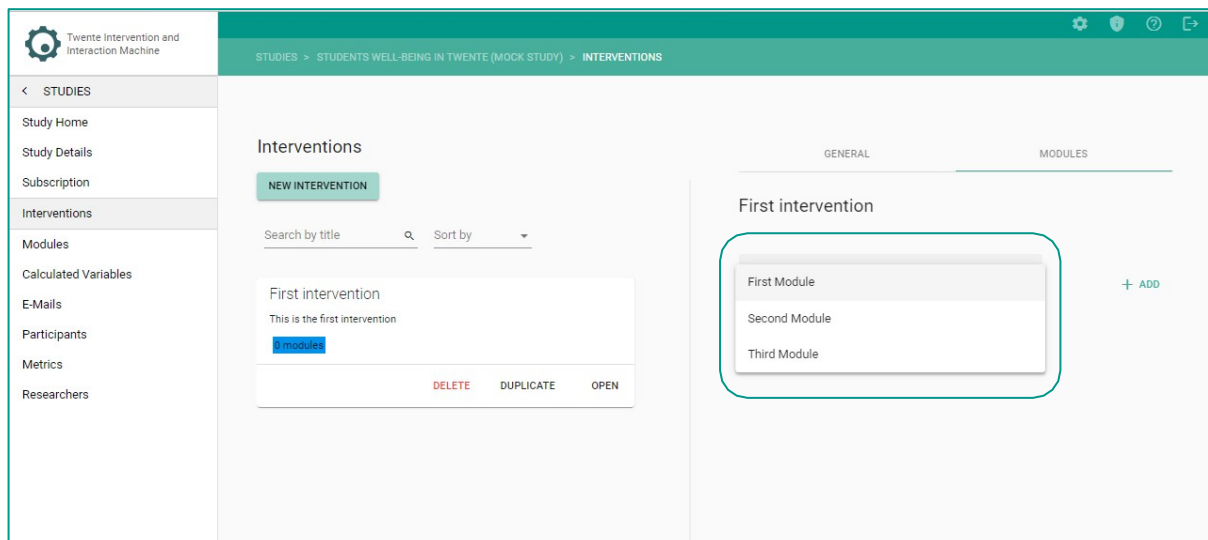
1. Within the interventions card, click on – OPEN –.



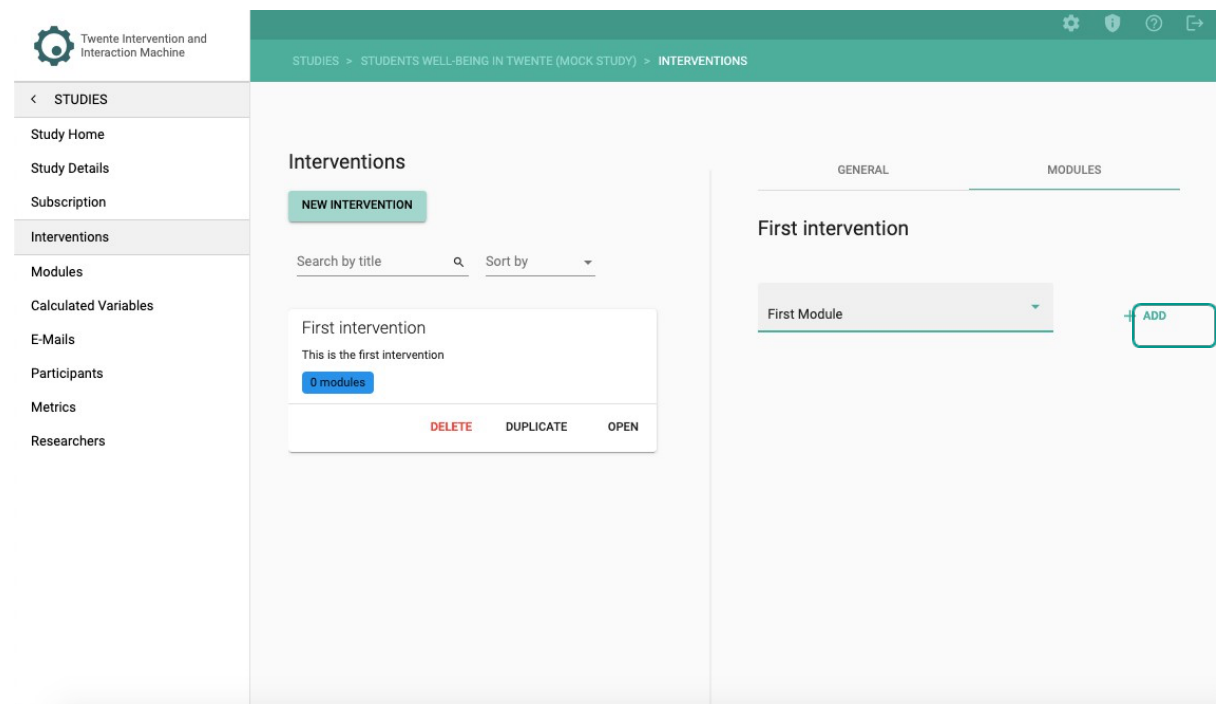
2. On the upper-right side, click on – MODULES –.



3. On the – SELECT A MODULE – dropdown field, select the desired module.



4. Click on the – + ADD – button.



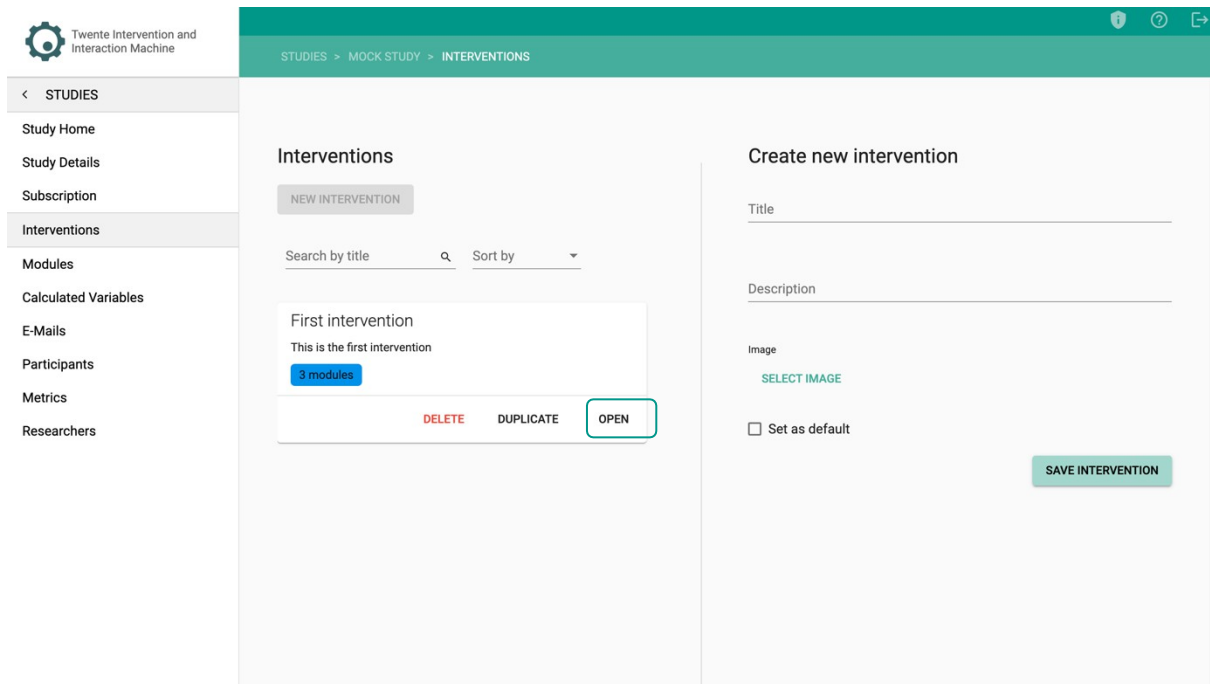
5. Repeat steps 3 and 4 for every module you want to add.

Setting timing rules

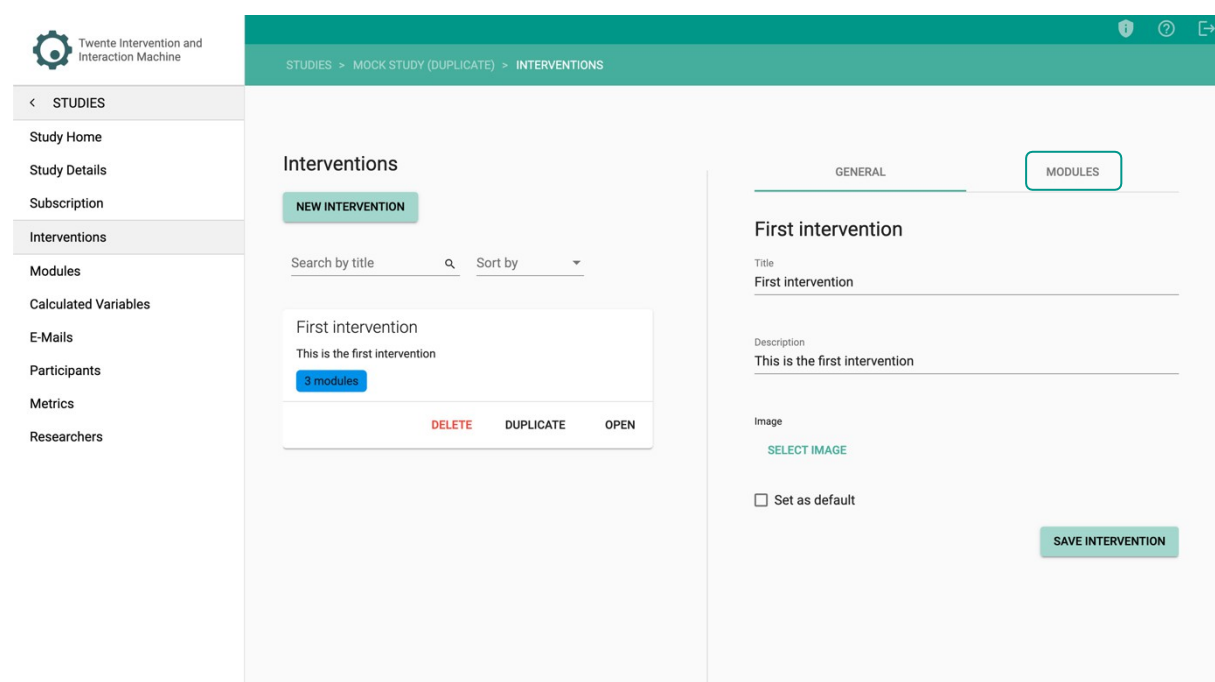
By default, all modules within an Intervention are visible to the participants once the study begins. However, you may want to set specific timers to a module, namely, **Timing Rules**. You can see the **Timing Rules** instructional video through the following link:

https://youtu.be/cWkduqyjUvA?si=VIQ2mf409y0V_8fW

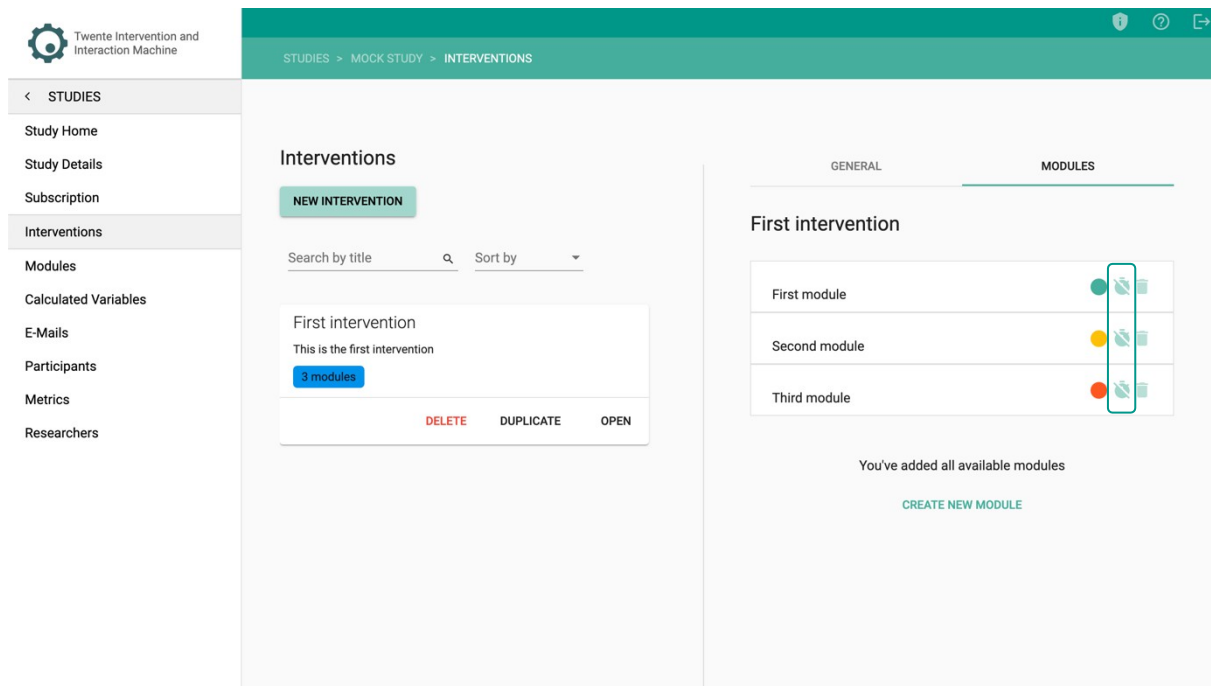
1. Within the interventions card, click on – OPEN –.



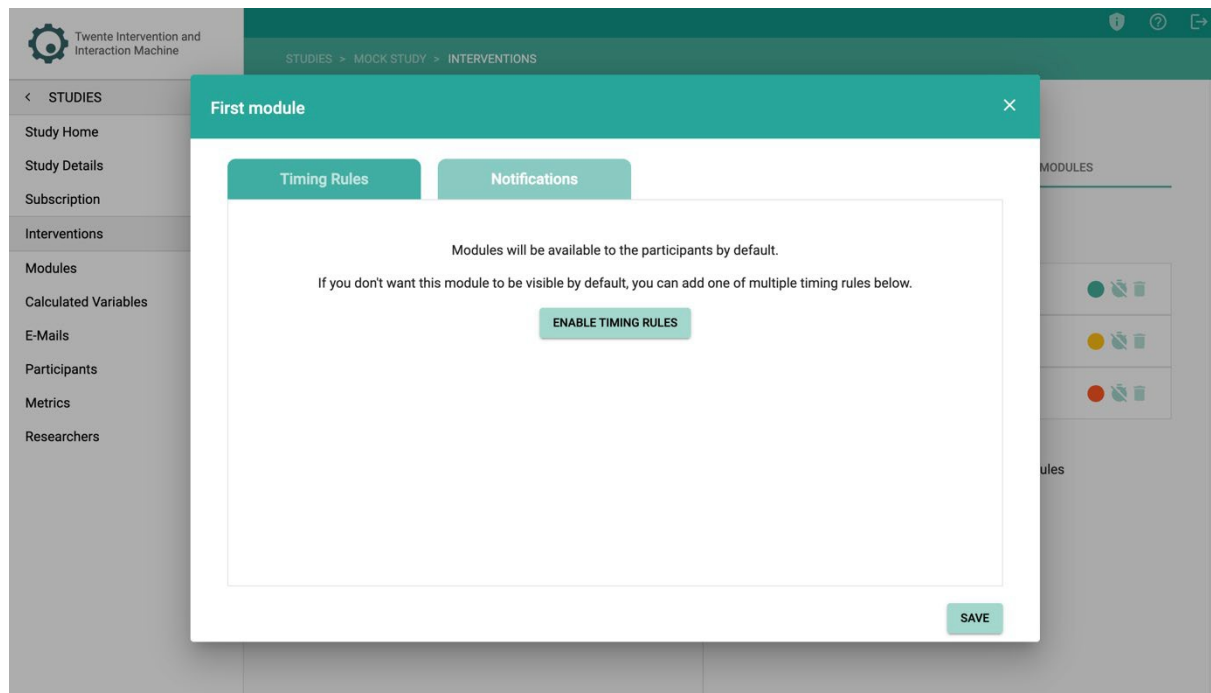
2. On the upper-right side, click on – MODULE -.



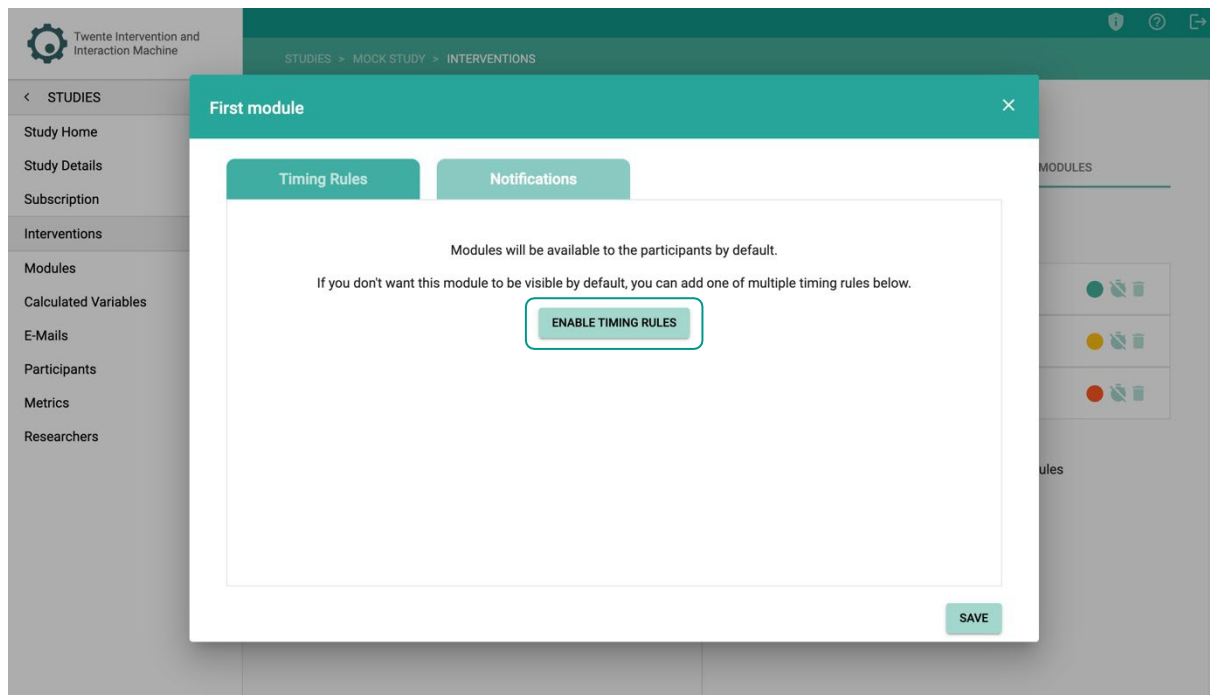
3. Click on the timer icon next to the Module that you want to add Timing Rules.



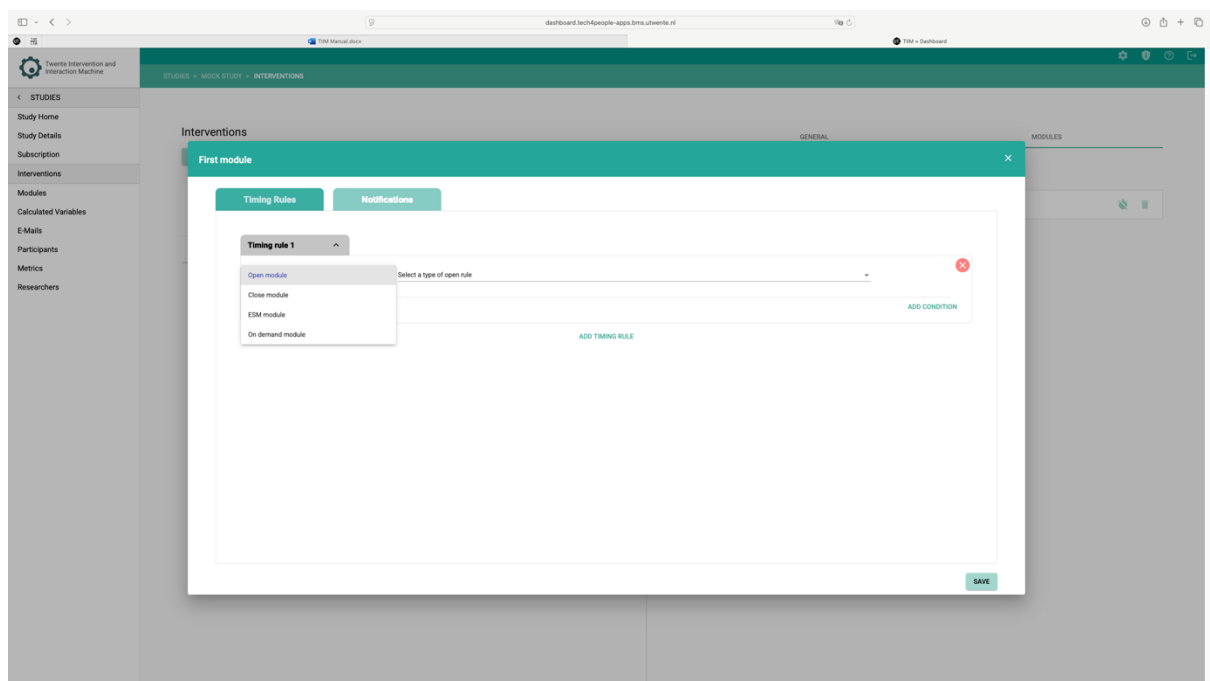
You will land on the Timing Rules tab:



4. Click on – ENABLE TIMING RULES –.



The Timing Rules tab will appear with the options for your first timing rule:



5. Choose – OPEN MODULE (set timing rule when module opens) – CLOSE MODULE (set timing rule when module closes) – ESM MODULE (repeats timing rules for the module) – or – ON DEMAND (makes the survey available to participants at any time of their choosing. Participants can simply access and complete it whenever they wish.).

The screenshot shows the 'First module' dialog box in the Twente Intervention and Interaction Machine. The 'Timing Rules' tab is selected. Under 'Timing rule 1', the 'Open module' dropdown is chosen, and a secondary dropdown menu is open showing 'Select a type of open rule'. There are 'ADD CONDITION' and 'ADD TIMING RULE' buttons, and a 'SAVE' button at the bottom right.

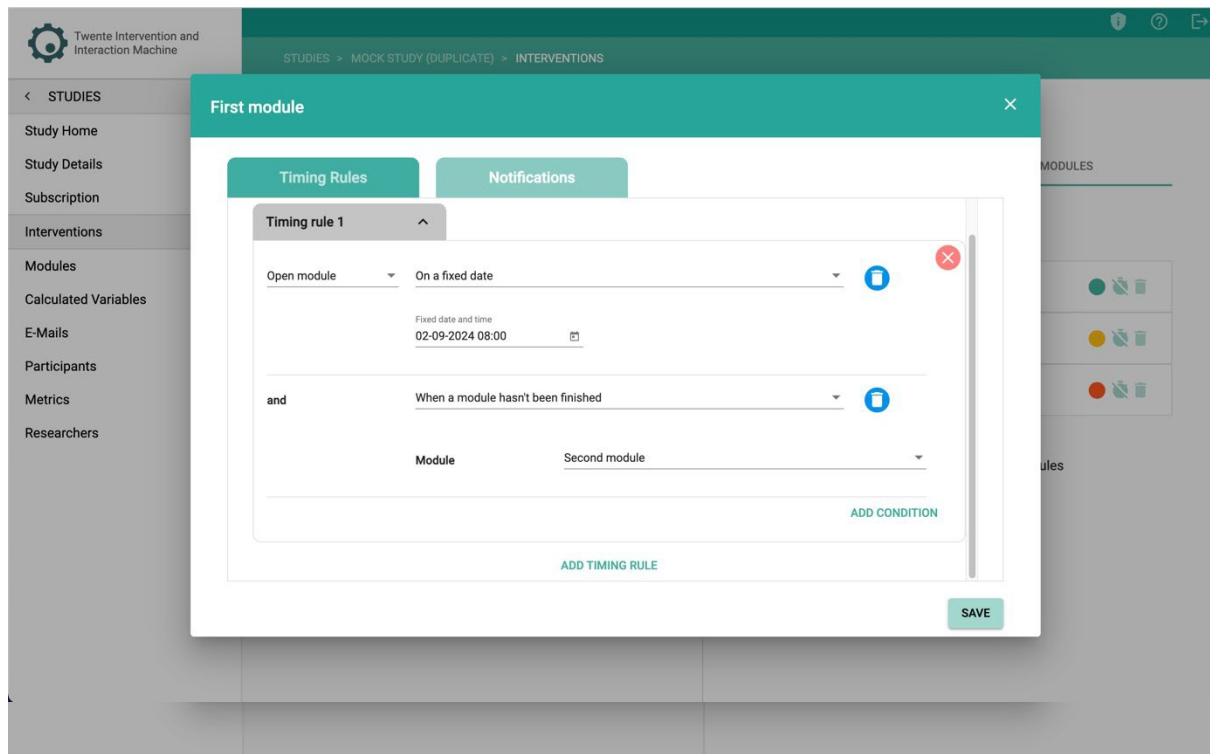
6. Select the type of timing rule, fill in the details & click save. The chosen timing rule is no saved.
7. For both open and close module, you can add another condition to the same timing rule by clicking on – ADD CONDITION –. Repeat this process as necessary.

The screenshot shows the 'First module' dialog box in the Twente Intervention and Interaction Machine. The 'Timing Rules' tab is selected. Under 'Timing rule 1', the 'Open module' dropdown is chosen, and the secondary dropdown menu shows 'On a fixed date'. Below this, the 'Fixed date and time' is set to '02-09-2024 08:00'. There are 'ADD CONDITION' and 'ADD TIMING RULE' buttons, and a 'SAVE' button at the bottom right.



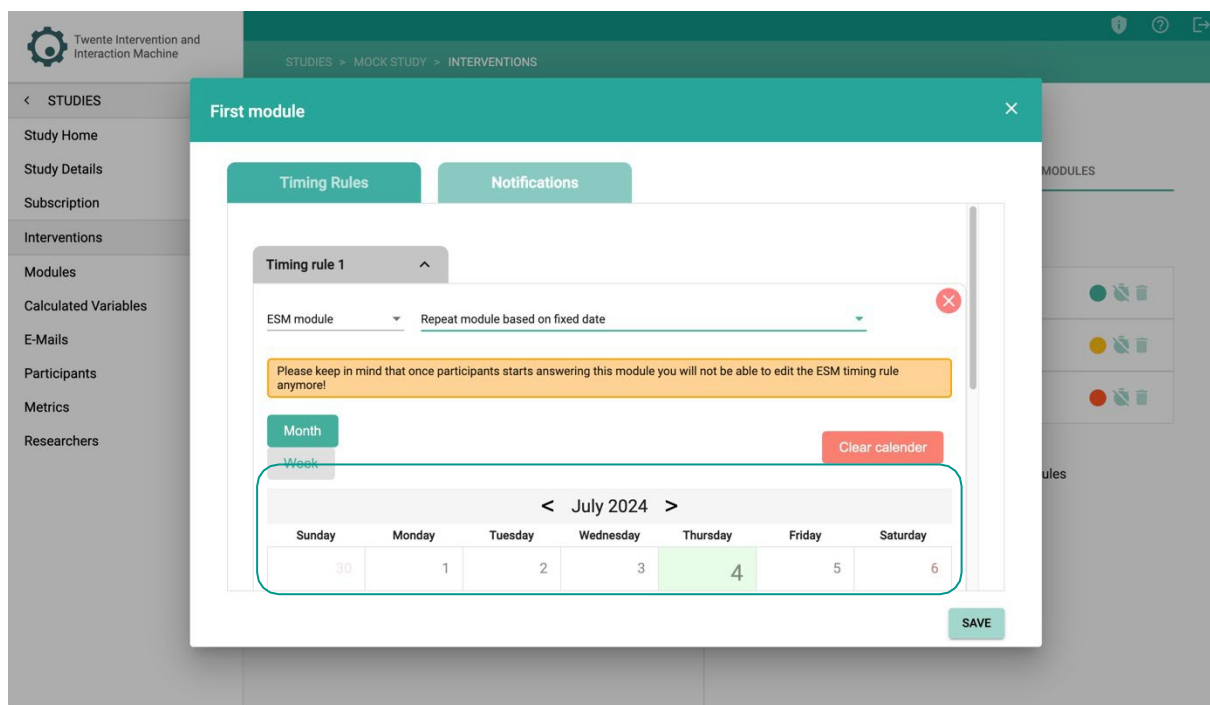
For a complete overview of all timing rules, see [Appendix B](#).

8. To add an alternative timing rule, click on – ADD TIMING RULE –. Repeat this process as necessary.



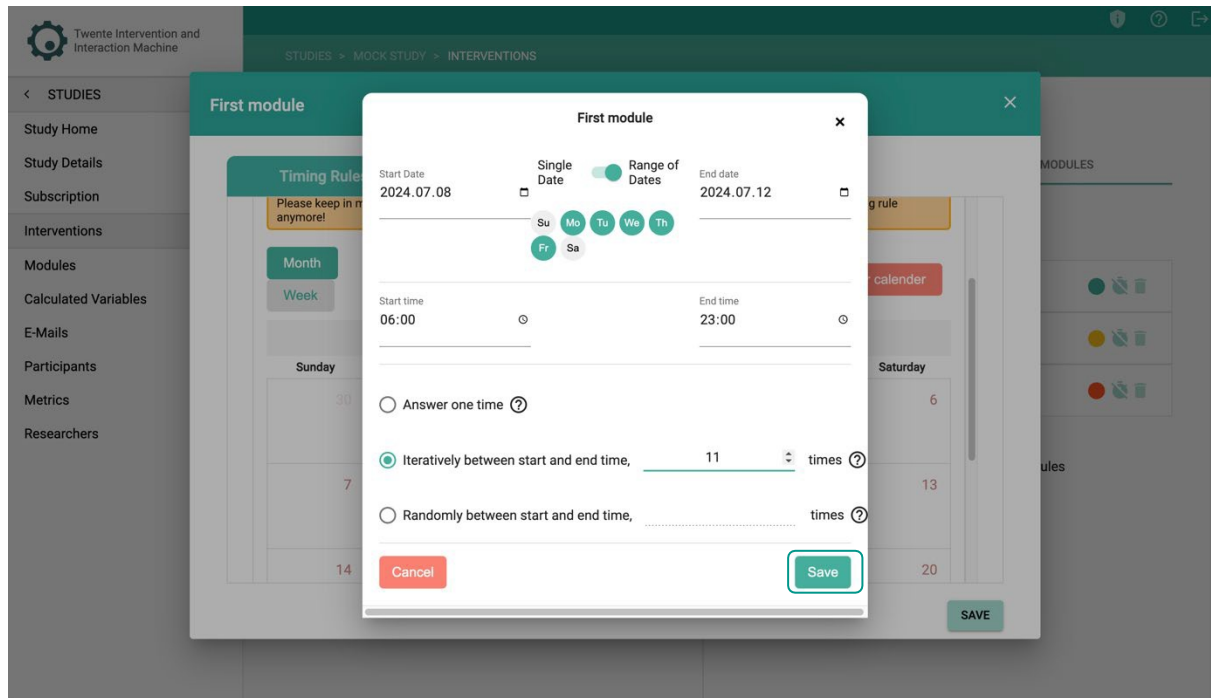
Timing rules for ESM Module

1. Once indicating ESM Module as a timing rule, a calendar will appear.

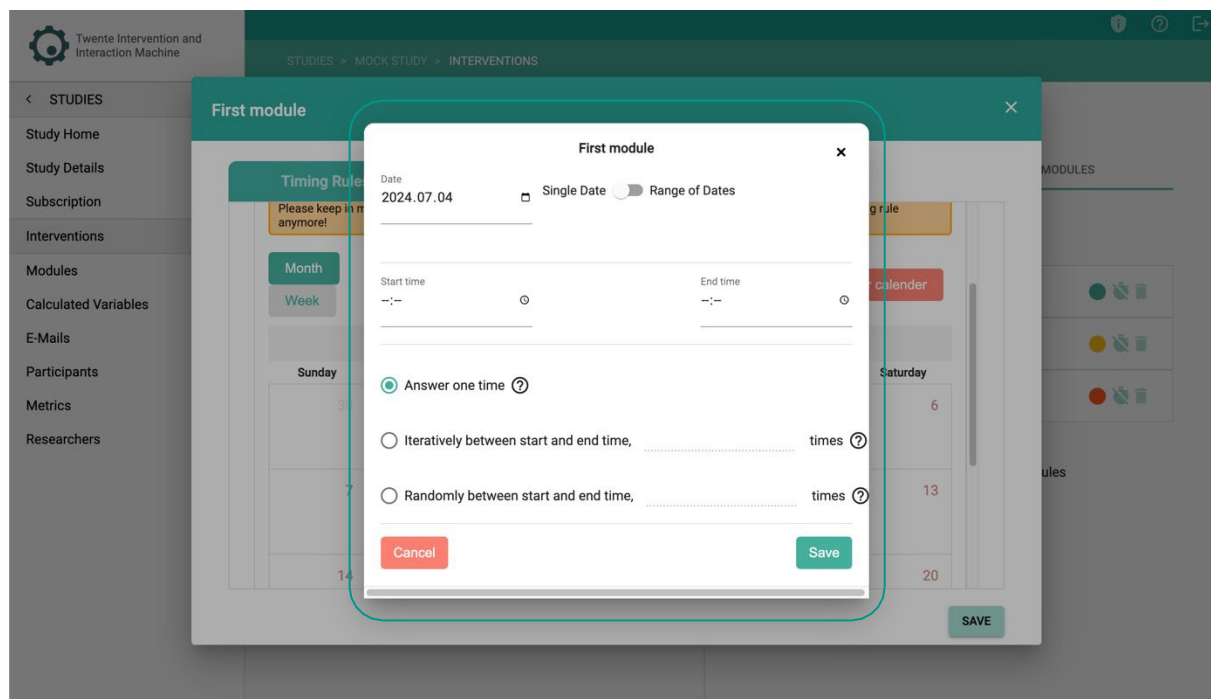


The Timing Rule that is true, will be triggered for the participant.

2. By clicking on a specific day in the calendar, another pop-up page opens. You can specify the conditions for the repetition of the timing rule for the ESM module.



3. Once you have finished editing any Timing Rules, click on – SAVE –.



The Timing Rules is now added:

The screenshot shows the Twente Intervention and Interaction Machine interface. On the left is a sidebar with a 'STUDIES' menu and a list of study components: Study Home, Study Details, Subscription, Interventions (highlighted), Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main content area has a teal header with 'STUDIES > MOCK STUDY > INTERVENTIONS'. Below this, the 'Interventions' section features a 'NEW INTERVENTION' button, a search bar, and a list of interventions. The first intervention is 'First intervention' with the description 'This is the first intervention' and a '3 modules' badge. Action buttons 'DELETE', 'DUPLICATE', and 'OPEN' are at the bottom. To the right, the 'First intervention' details are shown under the 'MODULES' tab, listing 'First module', 'Second module', and 'Third module', each with a colored circle icon and a trash icon. A message states 'You've added all available modules' with a 'CREATE NEW MODULE' link.

Notifications

For a specific module, you can send **Notifications** to your participants. You can see the **Notifications** instructional video through the following link:

https://youtu.be/cWkdugyjUvA?si=VIQ2mf409y0V_8fW

1. Click on the **timer icon** next to the Module that you want to add Timing Rules.


This screenshot is similar to the first one but shows a specific study: 'STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > INTERVENTIONS'. In the 'First intervention' details on the right, the 'First Module' row has a teal timer icon highlighted with a red rectangle. The rest of the interface, including the sidebar and the 'Interventions' list, is identical to the previous screenshot.

2. Click on the – NOTIFICATIONS – tab.

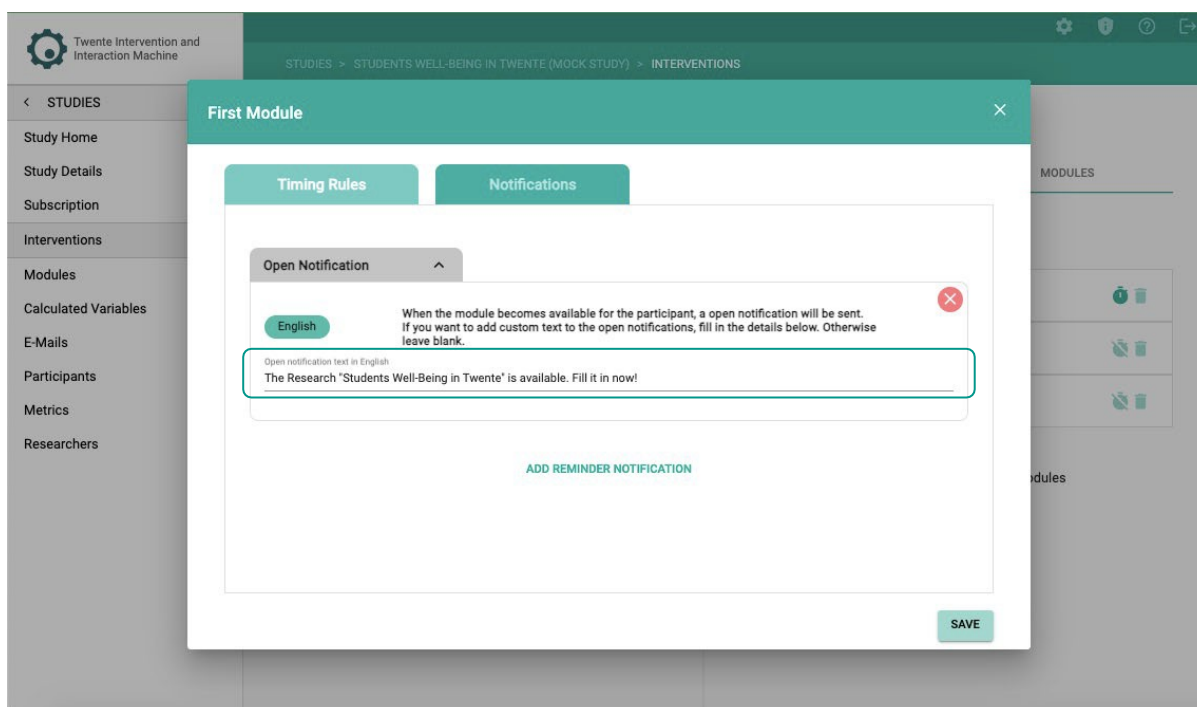
The screenshot shows the 'First Module' configuration window with the 'Notifications' tab selected. The window has a sidebar on the left with navigation links: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main area contains two tabs: 'Timing Rules' and 'Notifications'. The 'Notifications' tab is active, showing a section for 'Timing rule 1'. It includes a dropdown for 'Open module', a dropdown for 'On a fixed date', a date and time picker set to '18-09-2023 21:59', and a section for 'When a module hasn't been finished' with a dropdown for 'Module' set to 'Second Module'. A 'SAVE' button is at the bottom right.

3. Select the type of notification that you would like to add.

The screenshot shows the 'First Module' configuration window with the 'Notifications' tab selected. The window has a sidebar on the left with navigation links: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main area contains two tabs: 'Timing Rules' and 'Notifications'. The 'Notifications' tab is active, showing a section for 'Open Notification'. It includes a dropdown for 'Open Notification' set to 'English', a text area for 'Open notification text in English', and a button 'ADD REMINDER NOTIFICATION'. A 'SAVE' button is at the bottom right.

 Based on your added timing rules, you will see – OPEN NOTIFICATION – which sends a notification to the participant when the module is open, – CLOSE NOTIFICATION – (only enabled when timing rule is based on a time and date) which sends a notification to the participant when the module is closed, and – REMINDER NOTIFICATION – which sends a notification to remind participants to fill in the module.

4. Enter the notification text of your choosing.



5. Repeat steps 3 and 4 for every module you want to add.

 If you would like to delete the [Open Notification](#) and [Close Notification](#), you need to remove the timing rule first.

 For Close Notification and Reminder Notification, set the time of your preference.

6. Click on – SAVE –. The notification is now added.

The screenshot shows the 'Twente Intervention and Interaction Machine' interface. The left sidebar contains a menu with items: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main header area shows the breadcrumb: STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > INTERVENTIONS. A modal window titled 'First Module' is open, with a 'Notifications' tab selected. The 'Notifications' tab contains two sections: 'Open notification text in English' and 'Reminder Notification 1'. The 'Open notification text in English' section has a text input field with the value 'The Research "Students Well-Being in Twente" is available. Fill it in now!'. The 'Reminder Notification 1' section has a text input field with the value 'The Research "Students Well-Being in Twente" will close tomorrow (19/09/2023). Fill it in now!'. Below the text input field, there is a 'Send reminder after' section with fields for 'weeks', 'days', 'hours' (set to 5), and 'minutes'. A 'SAVE' button is located at the bottom right of the modal window.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > INTERVENTIONS

< STUDIES

Study Home

Study Details

Subscription

Interventions

Modules

Calculated Variables

E-Mails

Participants

Metrics

Researchers

First Module

Timing Rules

Notifications

English

When the module becomes available for the participant, an open notification will be sent. If you want to add custom text to the open notifications, fill in the details below. Otherwise leave blank.

Open notification text in English

The Research "Students Well-Being in Twente" is available. Fill it in now!

Reminder Notification 1

English

When a participant doesn't answer the module, a reminder notification can be sent. If you want to enable reminder notifications, fill in the details below. Otherwise leave blank.

Time period

Send reminder after

weeks

days

hours

5

minutes

SAVE

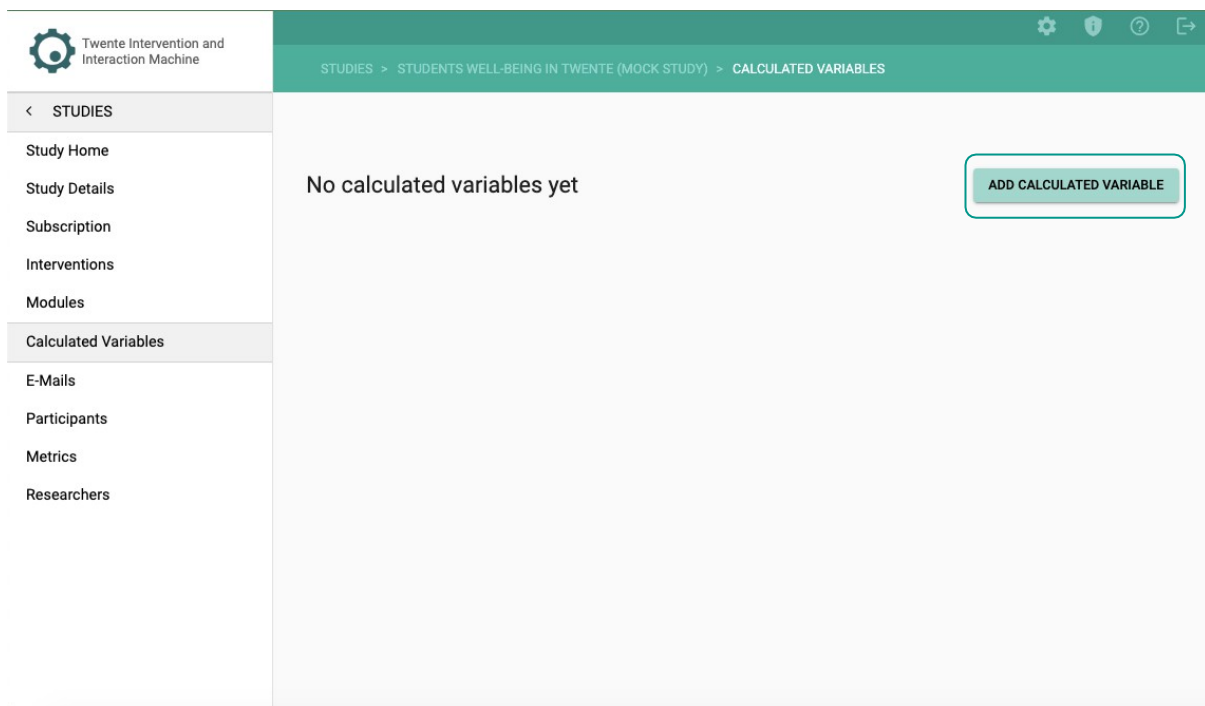
Calculated variables

A **Calculated Variable** enables you to collect the participant's answers on specific module items and later show your participants feedback based on an equation linked to their previously filled-in items.

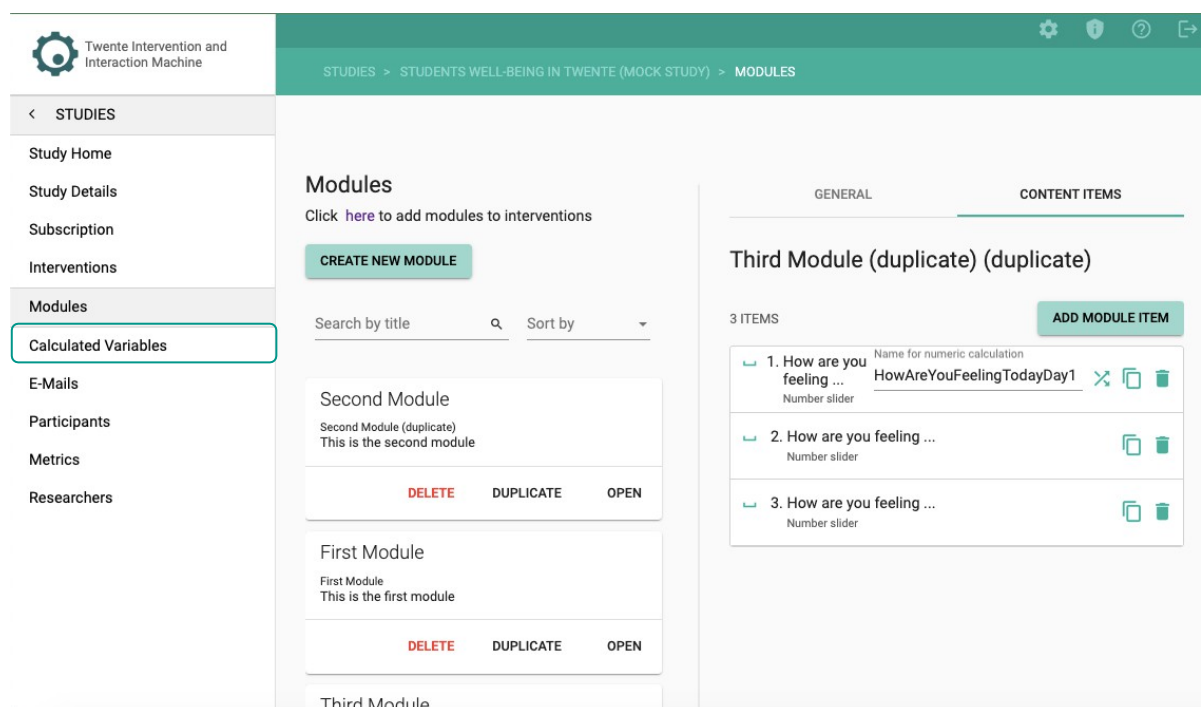
Writing the equation

After creating the **Calculated Variable** item, you have to write the equation for it. You can see the **Calculated Variable** item instructional video through the following link: https://youtu.be/D7E2H_n-PEA?si=29xMVj6YTgKbt_5c

1. On the sidebar, click on – CALCULATED VARIABLES –.



2. Then on the right side, click on the – ADD CALCULATED VARIABLE –.



A new page will appear:

The screenshot shows the 'Create New Calculated Variable' dialog box. It has a sidebar on the left with navigation links: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables (selected), E-Mails, Participants, Metrics, and Researchers. The main area of the dialog is titled 'Create New Calculated Variable' and contains the following fields and sections:

- ID**: A text input field.
- Short description**: A text input field.
- Search variables**: A search bar with a magnifying glass icon.
- Functions**: A table with two columns: Name and Description.
- Calculate Logic**: A large text area for defining the logic.

Name	Description
+	Returns the sum of the indicated variables.
-	Returns the subtraction of the indicated variables.
*	Returns the multiplication of the indicated variable.

3. Give your calculated variable an ID and description.

This screenshot shows the same 'Create New Calculated Variable' dialog box, but with the 'ID' and 'Short description' fields filled in. The 'ID' field contains 'ModeFeelingToday1' and the 'Short description' field contains 'Mode of Feeling Today Module Item 1'. The 'Calculate Logic' field is empty. A 'SAVE' button is visible at the bottom right of the dialog box.

Name	Description
+	Returns the sum of the indicated variables.
-	Returns the subtraction of the indicated variables.
*	Returns the multiplication of the indicated variable.

4. Drag and drop the ID (i.e., calculation names) and functions to the Calculate Logic field. You can also type it manually if you prefer.

Create New Calculated Variable

ID: ModeFeelingToday1

Short description: Mode of Feeling Today Module Item 1

Search variables

Functions

Name	Description
+	Returns the sum of the indicated variables.
-	Returns the subtraction of the indicated variables.
*	Returns the multiplication of the indicated variable.

Calculate Logic

SAVE

5. Click on – SAVE –.

Create New Calculated Variable

ID: ModeFeelingToday1

Short description: Mode of Feeling Today Module Item 1

Search variables

Functions

Name	Description
NUM_PS(N)	Returns the total number of participants for the indicated variable.
NUM_PS_ANS(N)	Returns the number of participants that responded to the indicated variable.
MODE_ANS(N)	Returns the most frequent responded number over the indicated variable.
COUNT_ANS(VAR,VAL)	Returns the count of occurrences from the responded value of the indicated variable.

Calculate Logic: HowAreYouFeelingTodayDay1MODE_ANS(

SAVE



Under functions, you will notice a list of formulas. This list can help you make the calculated variables easier.

The saved Calculated Variable will appear on the page

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > CALCULATED VARIABLES

< STUDIES

- Study Home
- Study Details
- Subscription
- Interventions
- Modules
- Calculated Variables**
- E-Mails
- Participants
- Metrics
- Researchers

Calculated Variables

ADD CALCULATED VARIABLE

Name	Description	Formula
ModeFeelingToday1	Mode of Feeling Today Module Item 1	HowAreYouFeelingTodayDay1MODE_ANS(

Showing the calculated variable as feedback

Once the participant has answered the items used for the **Calculated Variable**. You can see the **Calculated Variable Feedback** instructional video through the following link:

https://youtu.be/CIYlwv8E7yw?si=_fzVkQUy7Sk99m0I

1. On the sidebar, click on – MODULES –.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > CALCULATED VARIABLES

< STUDIES

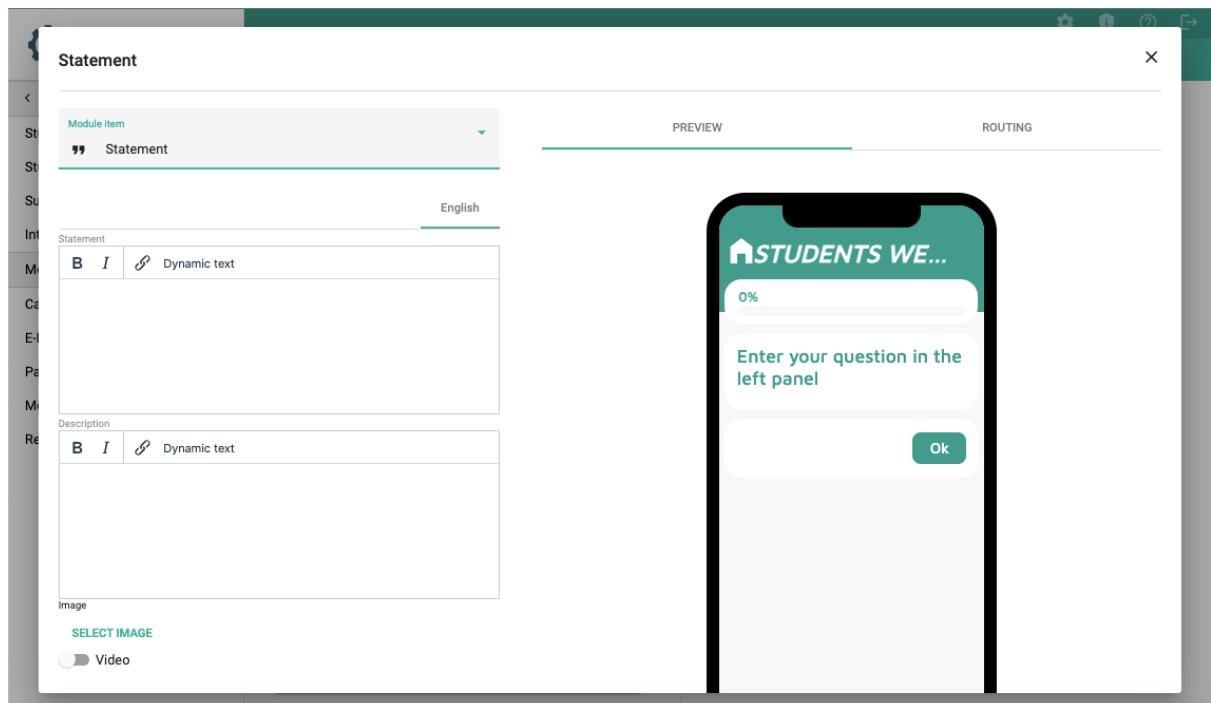
- Study Home
- Study Details
- Subscription
- Interventions
- Modules**
- Calculated Variables
- E-Mails
- Participants
- Metrics
- Researchers

Calculated Variables

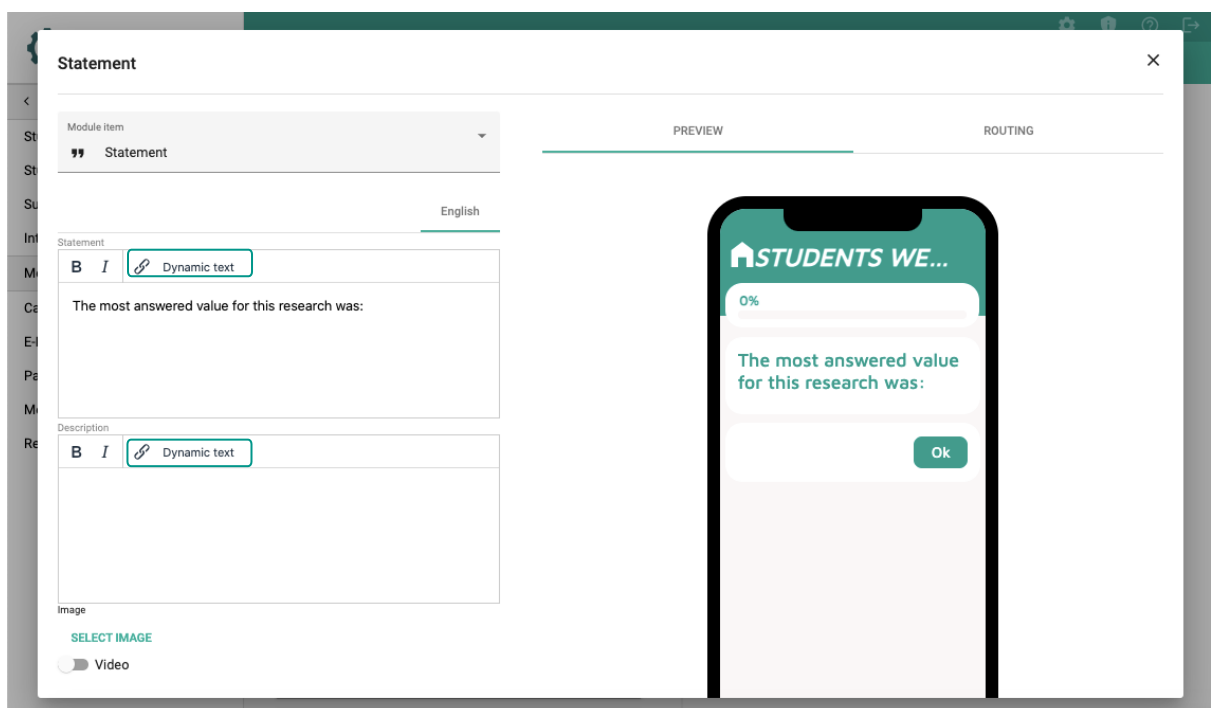
ADD CALCULATED VARIABLE

Name	Description	Formula
ModeFeelingToday1	Mode of Feeling Today Module Item 1	HowAreYouFeelingTodayDay1MODE_ANS(

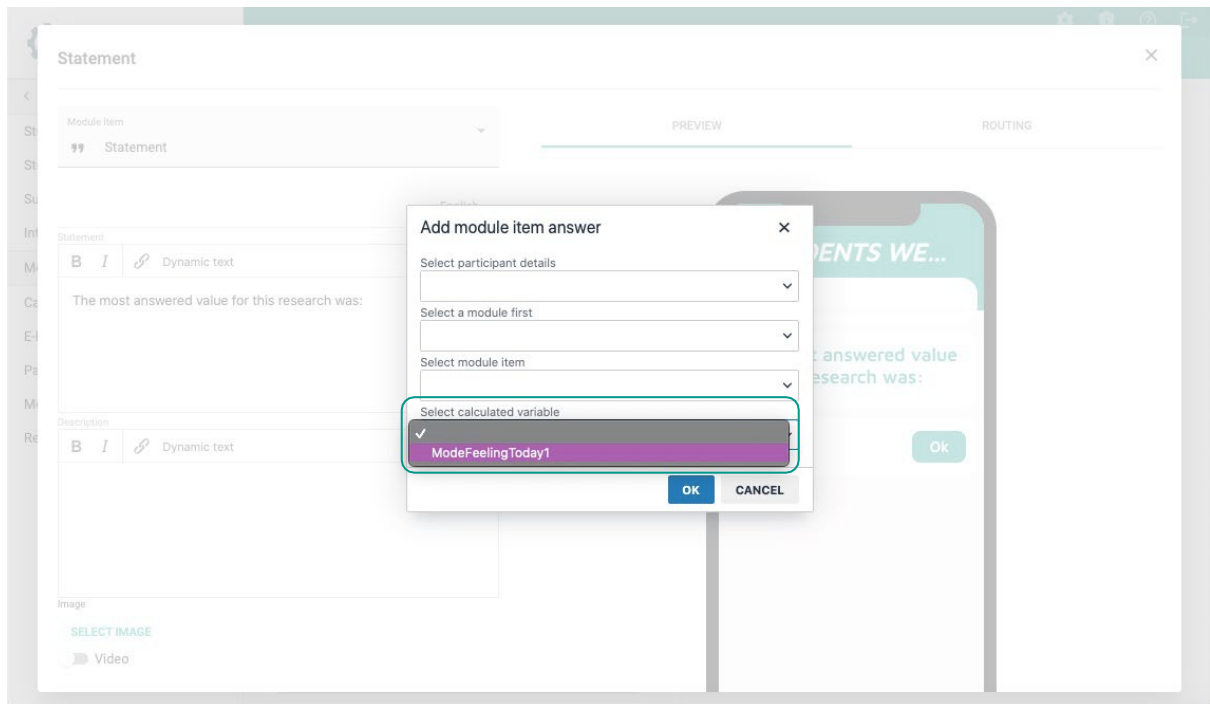
2. Open the module you would like to show the calculated variable and go to -CONTENT ITEMS_.
3. Click on – ADD MODULE ITEM and select any item type.
4. Fill in your question/statement and description.



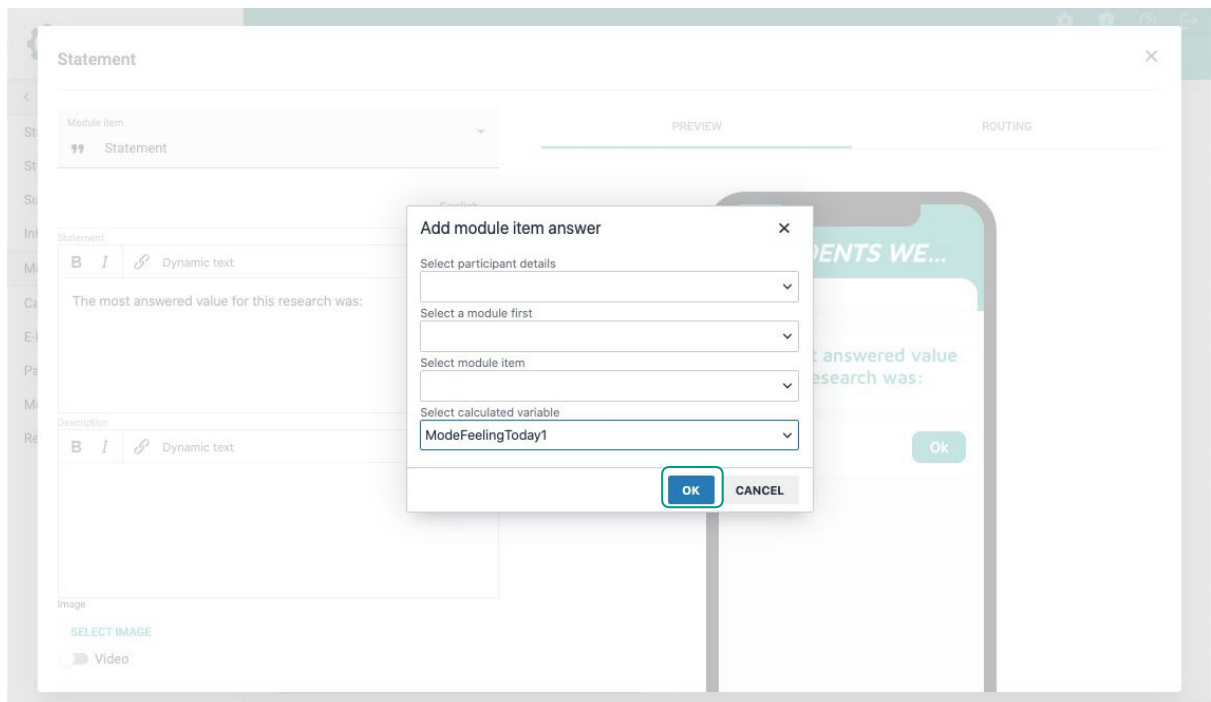
5. In the question or description field, click on – DYNAMIC TEXT –.



The following screen will open:

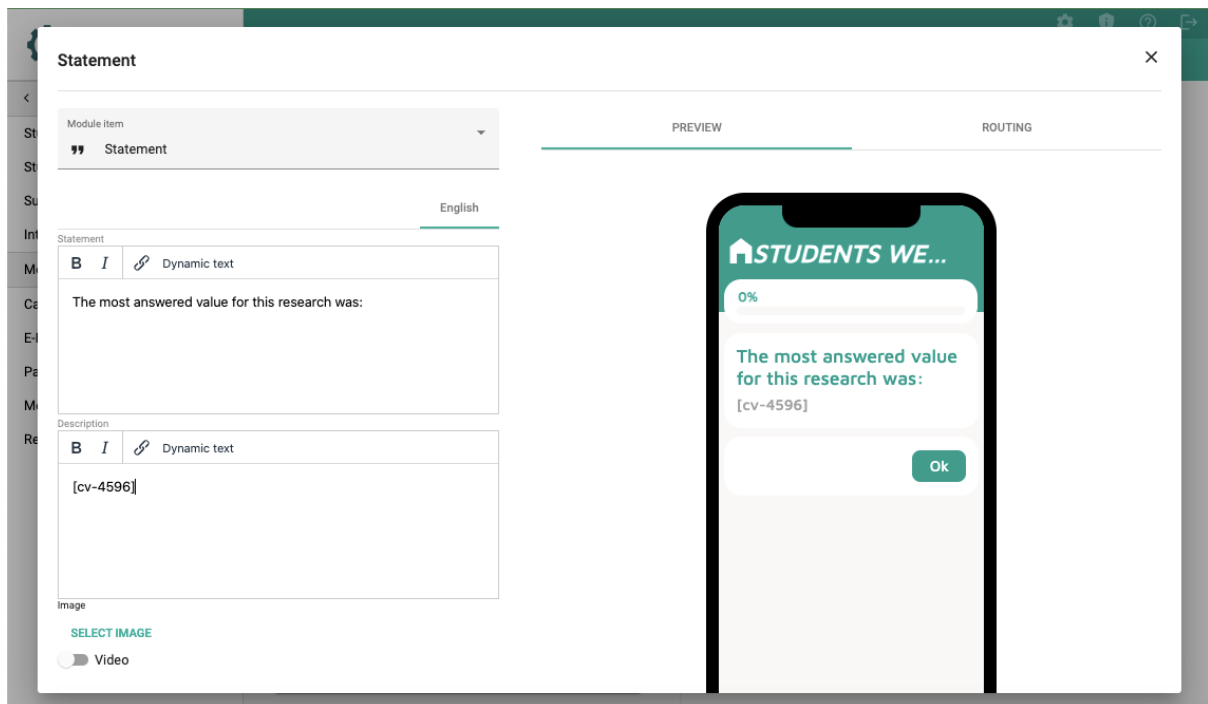


6. From the dropdown list, select the calculated variable you want to show.

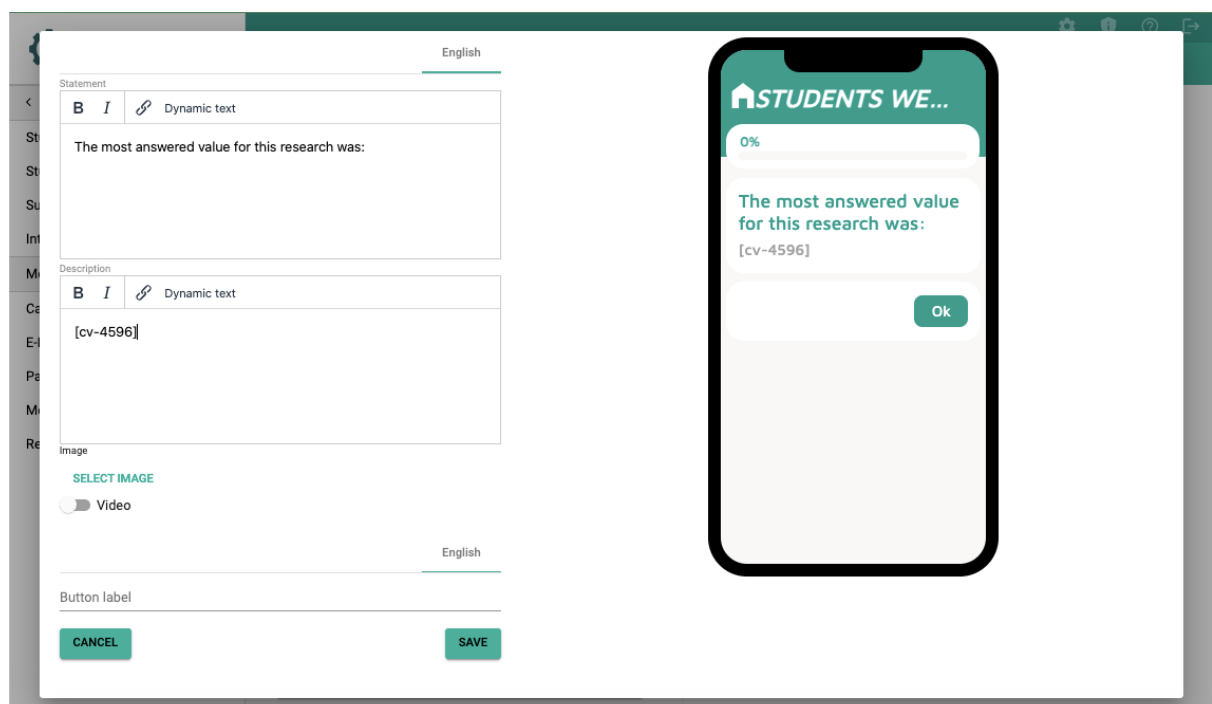


7. Click – OK –.

In your preview screen, **a code will appear**, this code will return a value once the participant has filled in the questions used for the calculated variable.



8. Click on – SAVE-.

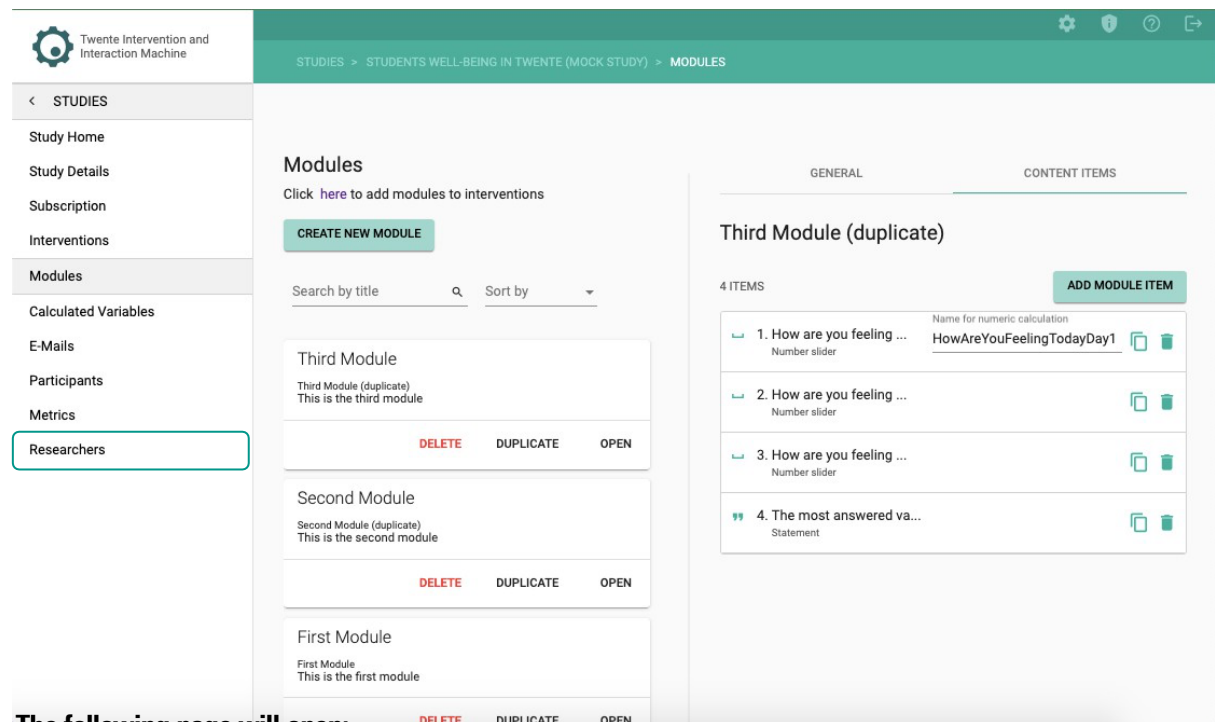


You can also enable calculated variables as a timing rule within the intervention, as shown in the timing rules section.

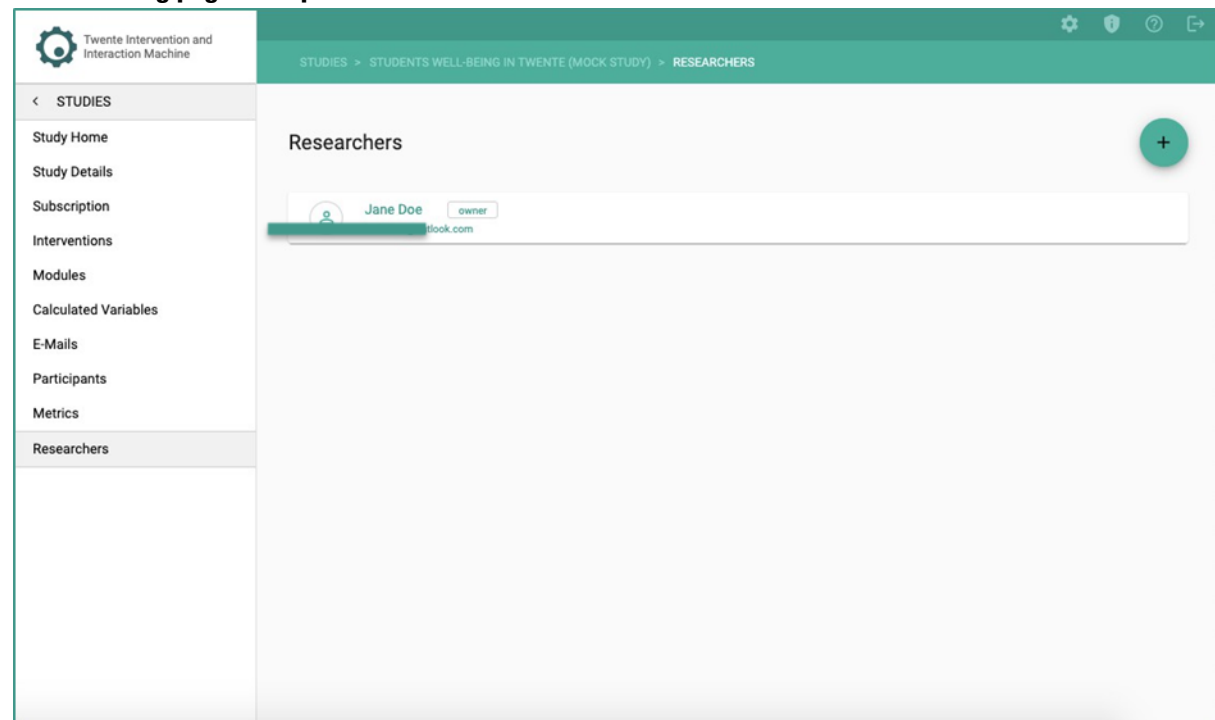
Managing researchers

TIIM allows you to edit your details as the main researcher, add other researchers to your study, and edit their study privileges.

On the sidebar, click on the – RESEARCHERS – page.



The following page will open:



Editing your details

1. Click on the name.

The screenshot shows the Twente Intervention and Interaction Machine interface. On the left is a sidebar with a gear icon and the text "Twente Intervention and Interaction Machine". Below it is a menu with the following items: "< STUDIES", "Study Home", "Study Details", "Subscription", "Interventions", "Modules", "Calculated Variables", "E-Mails", "Participants", "Metrics", and "Researchers" (which is highlighted). The main content area has a green header bar with the breadcrumb "STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS". Below the header, the title "Researchers" is displayed next to a green circular button with a white plus sign. A list of researchers is shown, with the first entry "Jane Doe" (owner) highlighted by a green box. The entry includes a person icon and a redacted email address.

2. Edit the first name and last name.

The screenshot shows the Twente Intervention and Interaction Machine interface with the edit form for "Jane Doe". The sidebar is the same as in the previous screenshot. The main content area has a green header bar with the breadcrumb "STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS". Below the header, the title "Jane Doe" is displayed with a green back arrow. Below the title is an "Email" field with a redacted email address. Below the email field are two input fields: "First Name" with the value "Jane" and "Last Name" with the value "Doe". A green "UPDATE RESEARCHER" button is located at the bottom right of the form.

3. Click on – UPDATE RESEARCHER –.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS

< STUDIES

- Study Home
- Study Details
- Subscription
- Interventions
- Modules
- Calculated Variables
- E-Mails
- Participants
- Metrics
- Researchers

← Jane Doe

E-mail

First Name Last Name

Jane Doe

UPDATE RESEARCHER

Adding researchers

1. To add other researchers, click on the – + – icon.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS

< STUDIES

- Study Home
- Study Details
- Subscription
- Interventions
- Modules
- Calculated Variables
- E-Mails
- Participants
- Metrics
- Researchers

Researchers

+ - +

Jane Doe owner

2. Enter the email of the researcher you would like to add.

The screenshot shows the Twente Intervention and Interaction Machine interface. On the left is a sidebar with a gear icon and the text 'Twente Intervention and Interaction Machine'. Below this is a menu with the following items: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The 'STUDIES' item is highlighted with a left-pointing arrow. The main content area has a teal header bar with the breadcrumb 'STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS'. Below the header, the title 'Add researcher to study' is followed by a left-pointing arrow. A text input field labeled 'E-mail' is present, and below it is a teal button labeled 'CHECK EMAIL'.

3. Click – CHECK EMAIL –.

This screenshot is identical to the one above, showing the same interface. The 'CHECK EMAIL' button is highlighted with a teal border, indicating it is the next step in the process.

4. Edit the first name and last name of the researcher (optional).

The screenshot shows the 'RESEARCHERS' page for 'John Doe'. The left sidebar contains a menu with 'Researchers' highlighted. The main content area has a header 'John Doe' and an 'E-mail' field. Below this is a form with 'First Name' (John) and 'Last Name' (Doe) fields. A 'Privileges' table follows, with columns for 'Study Details', 'Interventions', 'Modules', 'Researchers', 'Participants', and 'Metrics'. Each row has three radio buttons: 'Not Visible', 'Visible', and 'Visible - Create, Edit, Delete'. The 'Visible - Create, Edit, Delete' option is selected for all rows. An 'UPDATE RESEARCHER' button is at the bottom right.

Category	Not Visible	Visible	Visible - Create, Edit, Delete
Study Details	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Interventions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Modules	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Researchers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Participants	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Metrics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

5. You can edit the Researcher's privileges to the sidebar pages: study details, interventions, modules, researchers, participants, and metrics.

This screenshot is identical to the one above, but with a red rounded rectangle highlighting the 'Privileges' table. The table shows the following data:

Category	Not Visible	Visible	Visible - Create, Edit, Delete
Study Details	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Interventions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Modules	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Researchers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Participants	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Metrics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

6. Click on – UPDATE RESEARCHER –.

The screenshot shows the 'Twente Intervention and Interaction Machine' interface. The left sidebar lists navigation options: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main content area is titled 'STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS'. It displays the profile of 'John Doe' with fields for E-mail, First Name (John), and Last Name (Doe). Below this is a 'Privileges' section with a table of permissions for various study components. The 'UPDATE RESEARCHER' button is highlighted with a red box.

Category	Not Visible	Visible	Action
Study Details	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> Visible - Create, Edit, Delete
Interventions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> Visible - Create, Edit, Delete
Modules	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> Visible - Create, Edit, Delete
Researchers	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> Visible - Create, Edit, Delete
Participants	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> Visible - Create, Edit, Delete
Metrics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/> Visible - Create, Edit, Delete

The following page will open:

The screenshot shows the 'Twente Intervention and Interaction Machine' interface. The left sidebar is the same as in the previous screenshot. The main content area is titled 'STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > RESEARCHERS'. It displays a list of researchers under the heading 'Researchers'. There is a green circular button with a plus sign in the top right corner. The list contains two entries: 'Jane Doe' with the role 'owner' and 'John Doe' with a partially visible email address. A trash icon is visible next to the 'John Doe' entry.

7. To add more researchers, follow steps 1 – 6.

Managing participants

Within **TIIM**, you can **Manage the Participants** of your study by enabling them to subscribe, sending them an e-mail, and assigning them to a specific intervention. You can see the **Manage the Participants** video through the following link: <https://youtu.be/Y9HLuIF2K0E?si=z0snSbLZWKVgImA9>

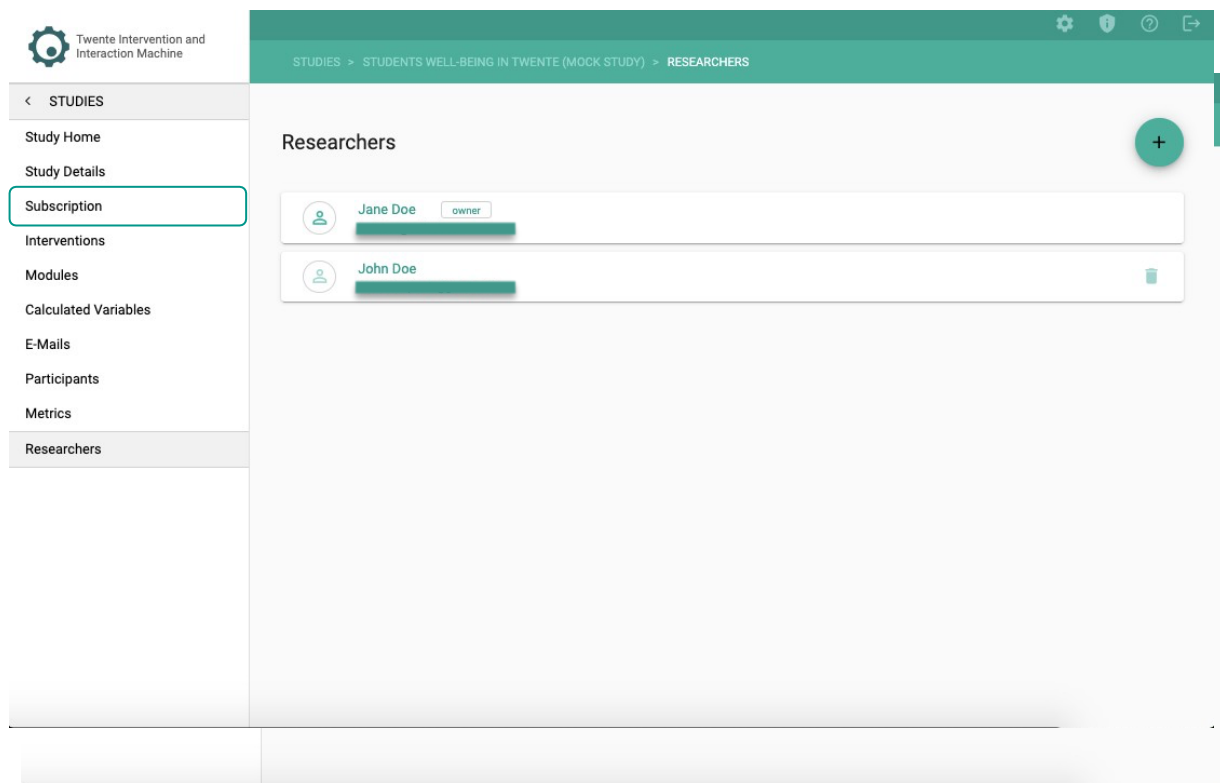
Editing Subscription page

The subscription page is the first page participants will see when subscribing to your study.

You need to create a subscription page in order for participants to access your study.

General

1. On the sidebar, click on the – SUBSCRIPTION – page



The following page showing the General Tab, will open:

2. Edit the subscription title page (visible to participants).

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > SUBSCRIPTION

GENERAL PAGES QUESTIONS

English

Subscription page title
Subscribe to the Students Well-Being in Twente

Subscription opens
04-06-2023 19:07

Subscription ends
12-10-2023 19:07

Enrolment Codes
These voucher and QR-codes are enrolment codes. Share these codes with participants, such that they can enrol for your study.

VOUCHER CODE
Suf16

SAVE

3. Edit the start and end of the subscription.

4. Click on – SAVE –.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > SUBSCRIPTION

GENERAL PAGES QUESTIONS

English

Subscription page title
Subscribe to the Students Well-Being in Twente

Subscription opens
04-06-2023 19:07

Subscription ends
11-01-2029 23:40

Enrolment Codes
These voucher and QR-codes are enrolment codes. Share these codes with participants, such that they can enrol for your study.

VOUCHER CODE
Suf16

SAVE

5. In the Enrollment Codes card, you can copy the voucher code or download the QR code image and share it with prospective participants of your study.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > SUBSCRIPTION

< STUDIES

Study Home

Study Details

Subscription

Interventions

Modules

Calculated Variables

E-Mails

Participants

Metrics

Researchers

GENERAL PAGES QUESTIONS

English

Subscription page title

Subscribe to the Students Well-Being in Twente

Subscription opens 04-06-2023 19:07

Subscription ends 12-10-2023 19:07

Enrolment Codes

These voucher and QR-codes are enrolment codes. Share these codes with participants, such that they can enrol for your study.

VOUCHER CODE

Suf16

SAVE



Before sharing it with your participants, always preview your study in Study Home.

Creating pages

1. Click the – PAGES – tab.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > SUBSCRIPTION

< STUDIES

Study Home

Study Details

Subscription

Interventions

Modules

Calculated Variables

E-Mails

Participants

Metrics

Researchers

GENERAL PAGES QUESTIONS

English

Subscription page title

Subscribe to the Students Well-Being in Twente

Subscription opens 04-06-2023 19:07

Subscription ends 12-10-2023 19:07

Enrolment Codes

These voucher and QR-codes are enrolment codes. Share these codes with participants, such that they can enrol for your study.

VOUCHER CODE

Suf16

SAVE



In the Pages tab you can create informative pages such as introductions, ethical disclosure statements or special instructions. The informative pages will be automatically shown to the participant after they have subscribed to your study.

2. Click on – CREATE THE FIRST PAGE –.

The screenshot shows the 'Twente Intervention and Interaction Machine' interface. On the left is a sidebar with a 'STUDIES' menu and a list of study components: Study Home, Study Details, Subscription (highlighted), Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main area has a green header with 'STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > SUBSCRIPTION'. Below the header are three tabs: GENERAL, PAGES (selected), and QUESTIONS. The page title is 'Subscribe to the Students Well-Being in Twente'. Below this is a blue arrow and the text 'Untitled page'. There is a text input field for 'Informative page title' containing 'Welcome to the Students Well-Being in Twente'. Below this is a checkbox labeled 'This is thank you page' which is currently unchecked. At the bottom, there is a rich text editor with bold (B), italic (I), and link icons.

3. Fill in the title.

This screenshot is identical to the previous one, but with two key changes: the checkbox 'This is thank you page' is now checked, and the text input field for 'Informative page title' is highlighted with a green border, indicating it is the active field for editing.

4. If you are creating a welcome page, unticked the box next to – THIS IS THANK YOU PAGE –. If it is a thank you page, leave ticked.
5. Fill in the body text.

Twente Intervention and Interaction Machine

< STUDIES

Study Home

Study Details

Subscription

Interventions

Modules

Calculated Variables

E-Mails

Participants

Metrics

Researchers

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > SUBSCRIPTION

English

Informative page title

Welcome to the Students Well-Being in Twente

☐ This is thank you page

English

B I

This study aims to investigate the student's well-being in the Twente area.
If you have questions or concerns, please contact the researcher.

Image

SELECT IMAGE

SAVE PAGE

6. Click on – SAVE PAGE –.
7. To create more informative pages just click on the – + – icon.

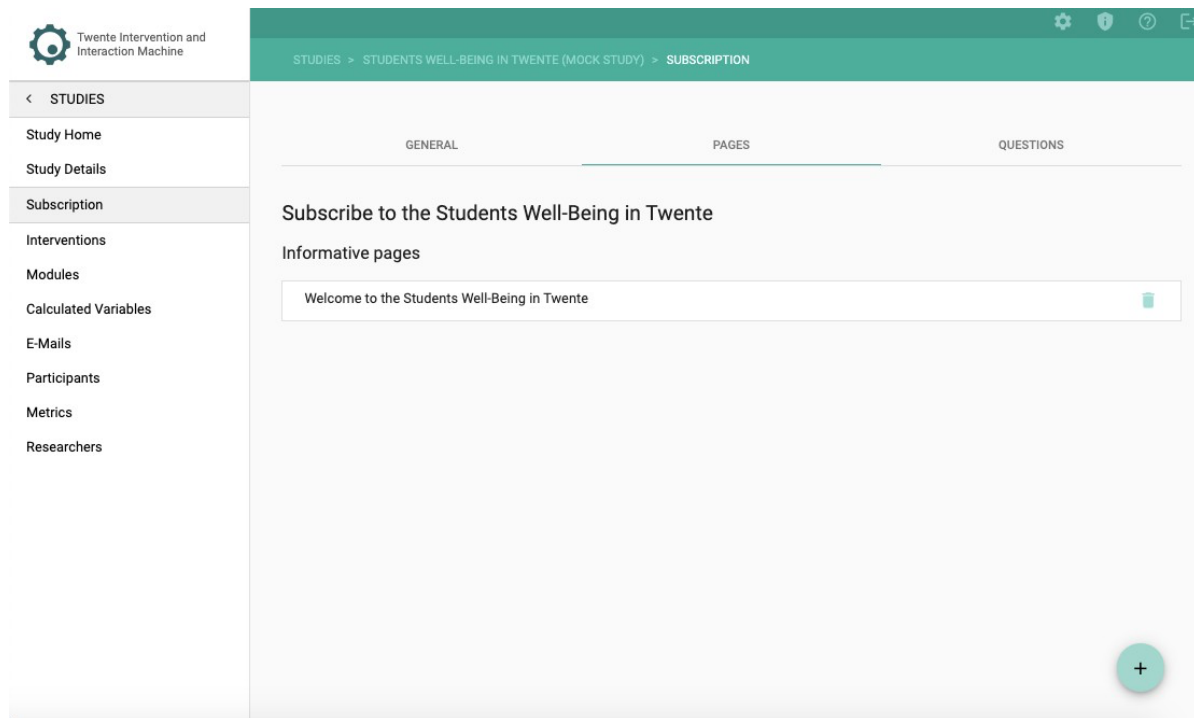


You must have at least one page for your enrollment code to work. A red exclamation point will show next to the Subscription tab and next to the pages tab in case you do not have a page. Once you have created the page and saved it, please refresh the page, so the exclamation point disappears.

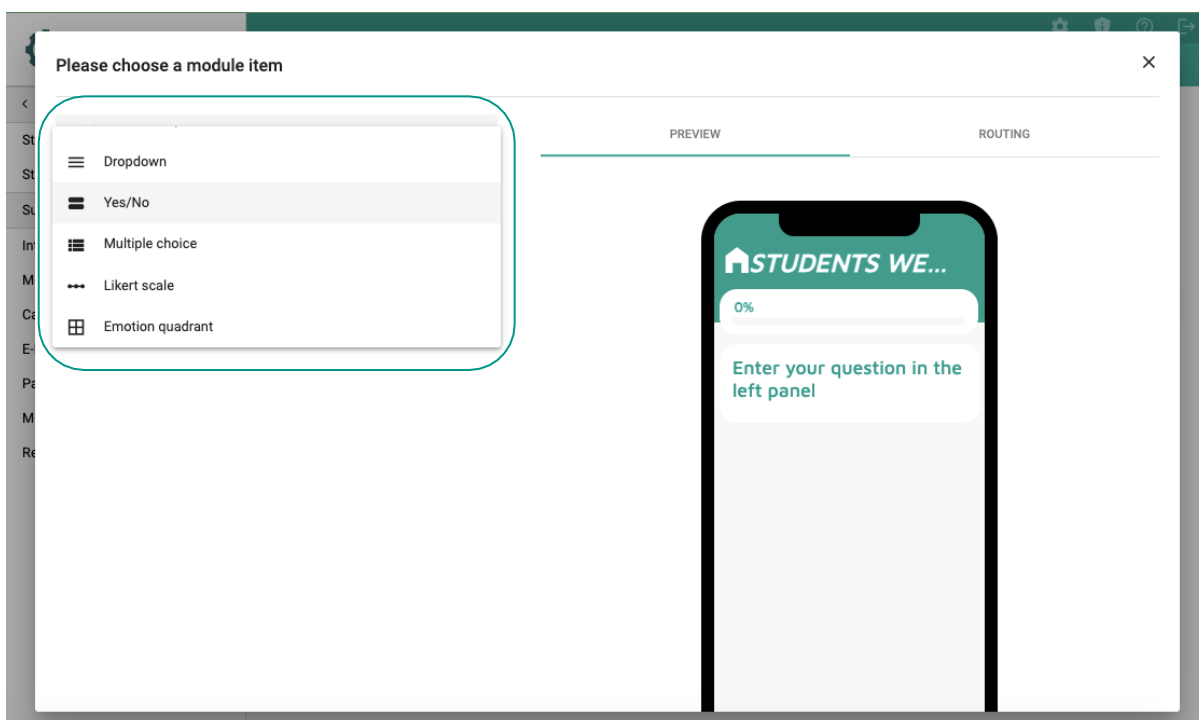
Screening questions

You can also create initial screening questions for your subscribed participants which you can use to assign them to the appropriate intervention.

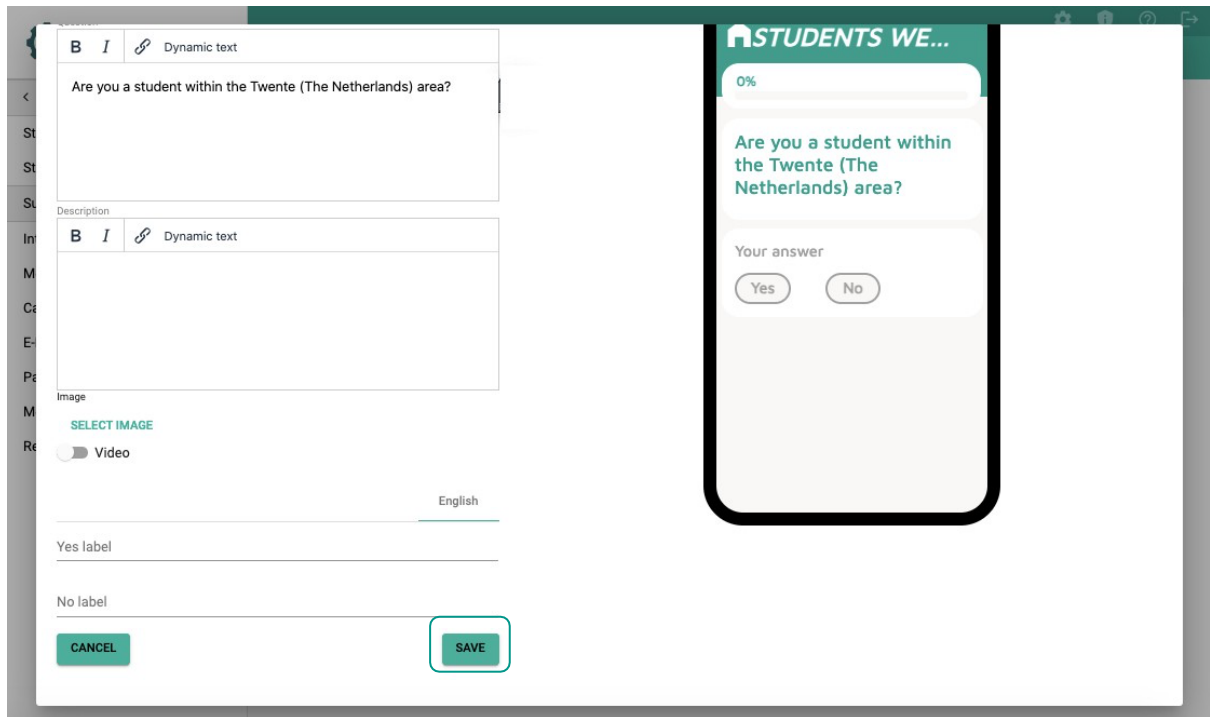
1. To create initial screening questions, click the – QUESTIONS – tab.



2. Click on – ADD MODULE ITEM –.



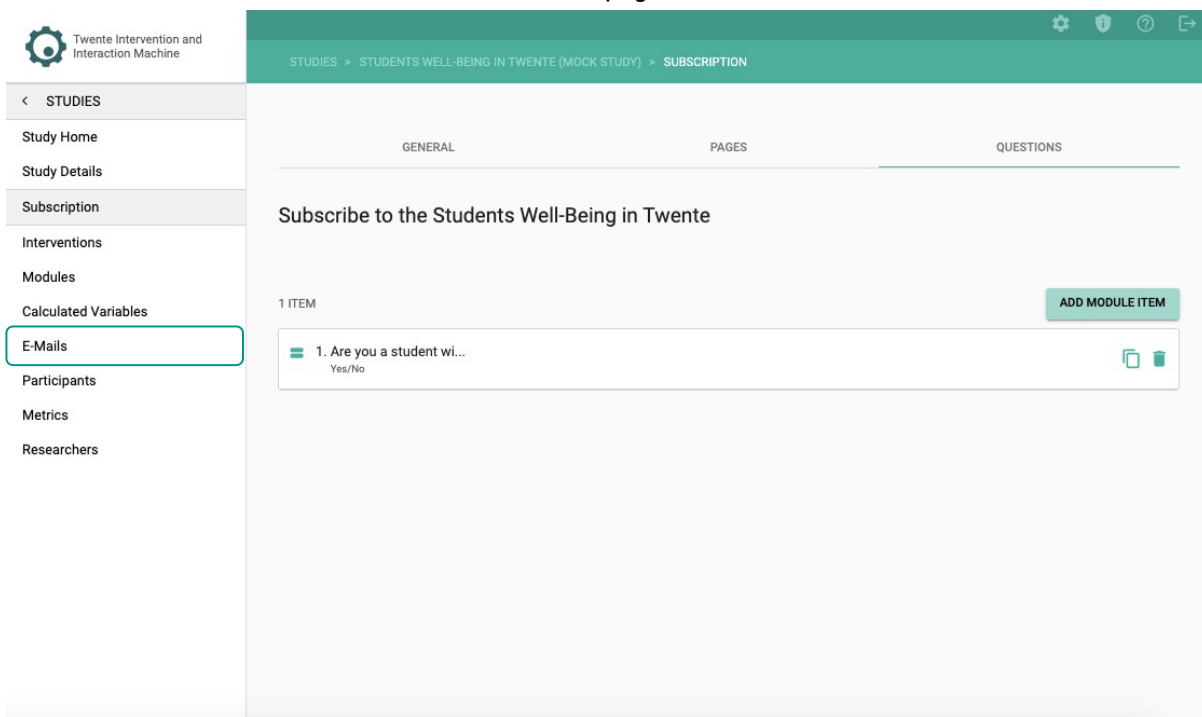
3. Select the type of questions you would like to include, fill in the details and click on save.



Editing email page

The emails page will allow you to draft two different template emails for your participants either (1) when the study starts or (2) if they are rejected from the study.

1. On the sidebar, click on the – E-MAILS – page.



The following page will open:

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > EMAILS

< STUDIES
Study Home
Study Details
Subscription
Interventions
Modules
Calculated Variables
E-Mails
Participants
Metrics
Researchers

E-Mails

Study starts

English

E-mail subject

English

E-mail body

B *I*



The study starts e-mail will be sent to your participants once you have assigned them to an intervention.

2. Fill in the study starts details and click on SAVE.

Twente Intervention and Interaction Machine

STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > EMAILS

< STUDIES
Study Home
Study Details
Subscription
Interventions
Modules
Calculated Variables
E-Mails
Participants
Metrics
Researchers

E-Mails

Study starts

English

E-mail subject

English

E-mail body

B *I*

3. Fill in the participant is rejected e-mail details.

The screenshot shows the Twente Intervention and Interaction Machine (TIIM) interface. The left sidebar contains a menu with the following items: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main content area is titled 'Participant is rejected' and has a breadcrumb trail: STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > EMAILS. The page is in English. It features two text input fields: 'E-mail subject' with the value 'Participation in Students Well-Being In Twente Study' and 'E-mail body'. The email body contains the following text: 'Hi, Thank you for your interest! We noticed that you specified you are not a student within the Twente area. As the study of Students Well-Being In Twente is only for students within the Twente area, you are unfortunately not eligible for the study. If you are interested in knowing more about the study results, please contact me at: ut.researcher@utwente.nl (not a real email). Best, Researcher'. A 'SAVE' button is located at the bottom right of the form.

Editing participants page

The Participant's page enables you to check the participant's details and assign or reject a participant. The participant's page displays a list of subscribed and unsubscribed participants. Participants can unsubscribe from your study through the TIIM app and can only do so after you have assigned them to an intervention.

1. On the sidebar, click on the – PARTICIPANTS – page.

Once participants subscribed to your study, the Participants page will show like this:

2. Click on the unassigned participants.

The screenshot shows the Twente Intervention and Interaction Machine (TIIM) interface. The left sidebar contains a menu with the following items: STUDIES, Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants, Metrics, and Researchers. The main content area is titled 'Participants' and has a breadcrumb trail: STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > PARTICIPANTS. The page is in English. It features a section titled 'Unassigned participants' which contains a table with one row: '9495. test user22'. A trash icon is located to the right of the table row.

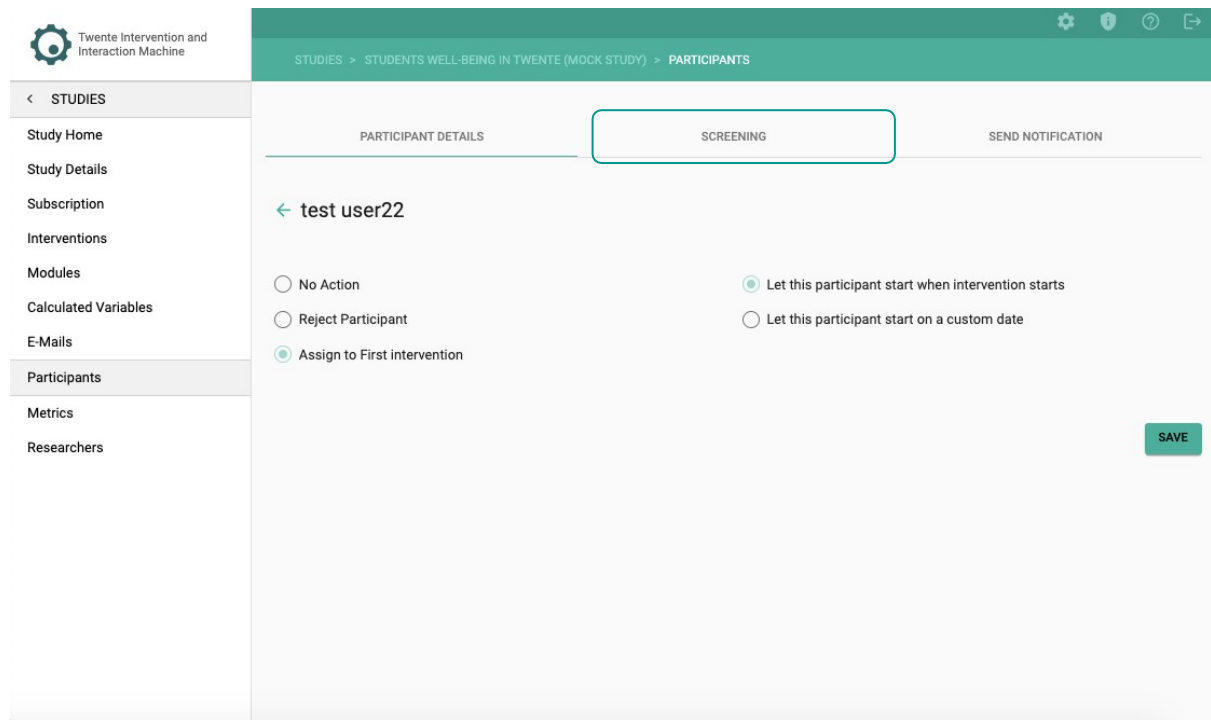
The following page showing the PARTICIPANT DETAILS Tab, will open:

The screenshot shows the Twente Intervention and Interaction Machine interface. On the left is a sidebar with a 'STUDIES' section containing links to Study Home, Study Details, Subscription, Interventions, Modules, Calculated Variables, E-Mails, Participants (highlighted), Metrics, and Researchers. The main content area has a teal header with the breadcrumb 'STUDIES > STUDENTS WELL-BEING IN TWENTE (MOCK STUDY) > PARTICIPANTS'. Below the header are three tabs: PARTICIPANT DETAILS (active), SCREENING, and SEND NOTIFICATION. The active tab shows a back arrow and the text 'test user22'. There are three radio button options: 'No Action', 'Reject Participant', and 'Assign to First intervention' (which is selected). A teal box highlights the 'Assign to First intervention' option and two additional options: 'Let this participant start when intervention starts' (selected) and 'Let this participant start on a custom date'. A teal 'SAVE' button is in the bottom right corner.

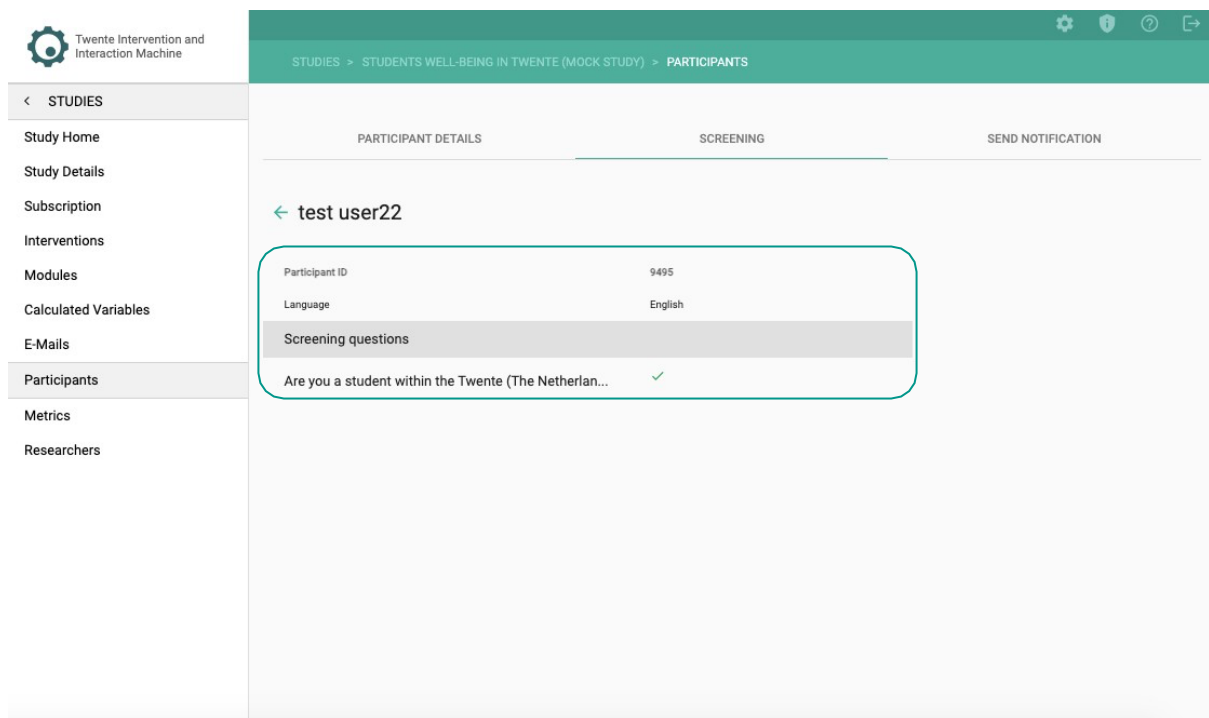
3. Assign the participant to a particular Intervention or reject the prospective participant.

This screenshot is similar to the previous one, showing the same interface for 'test user22'. However, the 'No Action' radio button is now selected. The teal box highlights the 'No Action' option and the other two options: 'Reject Participant' and 'Assign to First intervention'. The 'SAVE' button is now greyed out.

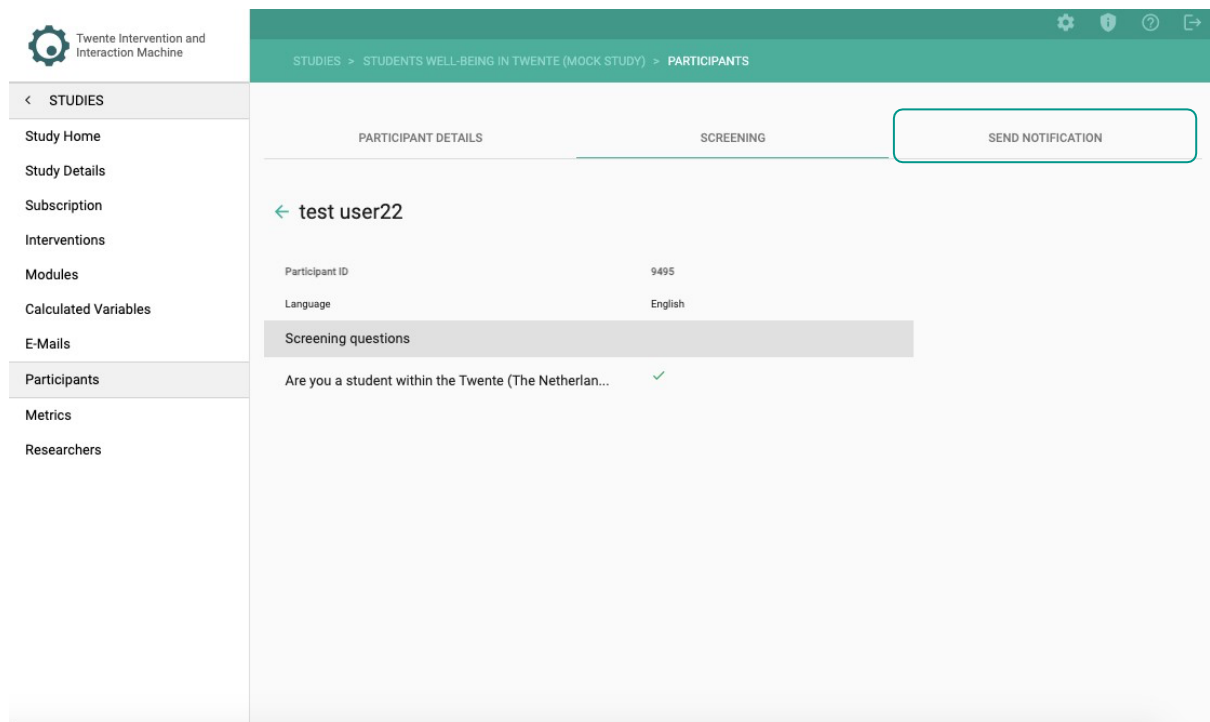
4. When you assign the participant to an intervention, choose to let the participant start when the intervention starts or on a customer date and time.



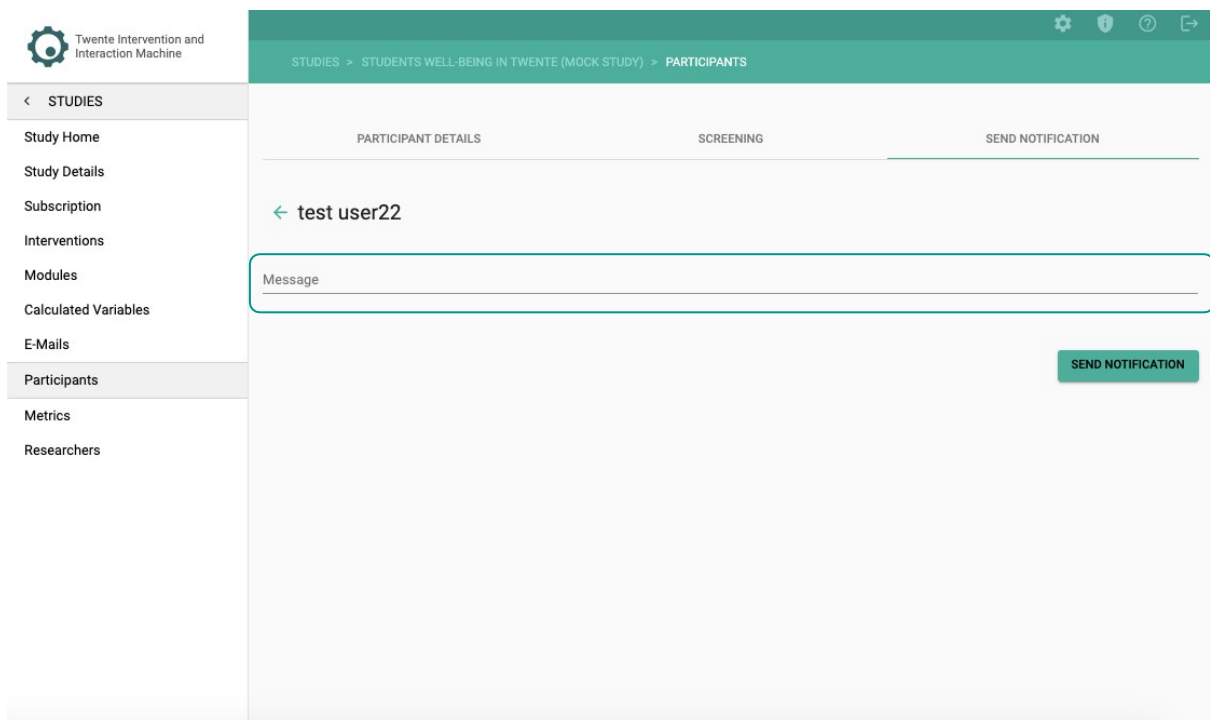
5. Click on – SCREENING –.



6. The SCREENING tab will open showing the participant's answers to the questions when they were subscribing to your study.



7. Click on – SEND NOTIFICATION –.



8. In the Send Notification tab, send specific push notifications to your participant's smartphone. The push notification can work as a reminder and call to action.
The participant needs to have the TIIM application installed on their smartphone, logged in on their account, and the push notifications enabled in the TIIM application settings.

Instructing first-time participants

For your participants to be able to fill in your study you will need to instruct them on how to download and use the TIIM app. You can share the [Participants](#) instructional video through the following links:

English: <https://youtu.be/LgUXV08iUK4?si=Zgc4m08Z7rXZRnY6>

Dutch: <https://youtu.be/VEpPzLWGrLs?si=ZirOF7MH0Botw0MZ>

Alternatively, you can share the following text:

1. Downloading TIIM for Android

- Go to the play store for Android.
- Type in the search bar "TIIM".
- Select the TIIM app.
- When the download menu opens, select – DOWNLOAD –.
- After downloading has finished you can open the app.

OR

Downloading TIIM or iOS

- Go to the App store for iOS. Type in the search bar "TIIM". Select on the TIIM app.
- Select – DOWNLOAD –.
- Accept the download with your apple ID.
- After downloading has finished you can open the app.



The app is free, so don't worry about the mention for payment.

2. Creating an Account

- The app will ask to login. Select – CREATE AN ACCOUNT –.
- Fill in your details.
- Then, press – CREATE ACCOUNT –.
- To log in just fill in your email address and password.

3. Subscribing to the study

- To subscribe to a study, select the QR code icon on the right side of your screen.
- You can type the voucher code.
- Then, press – SUBMIT –.

OR

- Scan the QR code that you have received from the researcher. Both methods will send you to a subscription page.
- Select – CONTINUE –.
- Here you can also confirm if you would like to subscribe with the mentioned email.
- Press – CONTINUE –.
- The Researcher will contact you when you can start the study.

4. Editing Settings

- In the app on the left select – SETTINGS –.

- Allow for push, email notifications, and data collection from Healthkit.
- If you would like to, you can select that you would like to join other TIIM studies in the future. You can always change the settings.
- To unsubscribe from a study, select – UNSUBSCRIBE – next to the study.
- If you want to delete your data, please contact the researcher or ask the researcher for your User ID and then contact the BMS Lab dashboard support.
- Press – SAVE –.



When you start using the app, you will see a pop up asking if you would like to join other TIIM studies. This will allow researchers in the future to invite you to join their studies. You can always decline the invitations and change this setting in options.

5. Answering a study

- Once a module is available for answering, you will receive a notification.
- You will be able to view the number of available modules on the study card.
- Once you click on the card, you will be able to see all available modules and by clicking on them, you can begin answering.

6. Answered modules

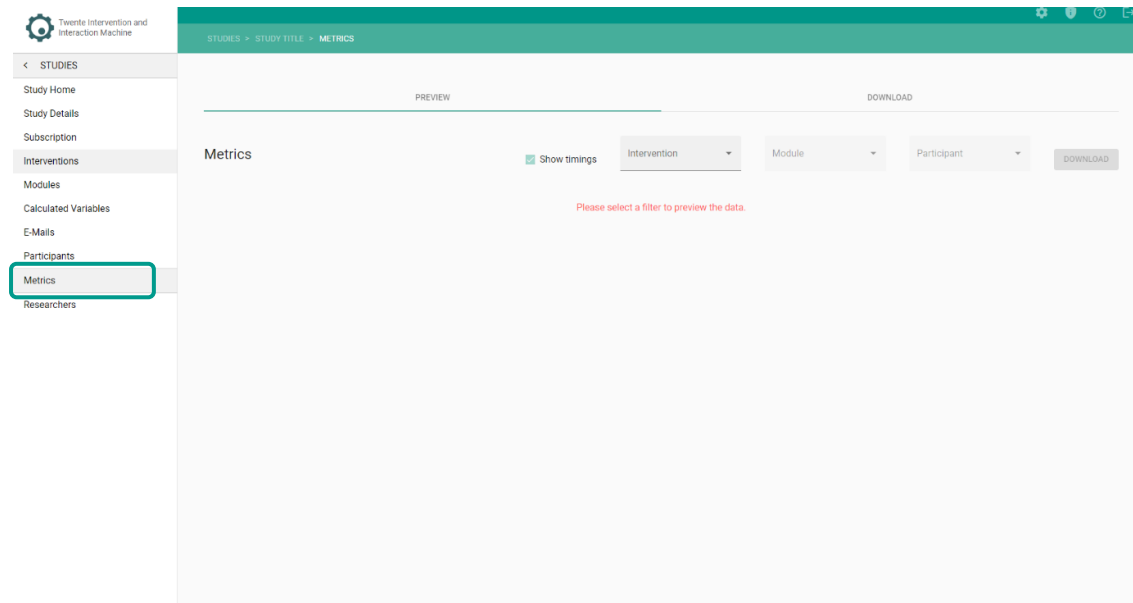
- If you would like to see your previous answers, you can do so by clicking the study card and going to Finished Modules.
- Under finished modules you will see a list of all answered modules and if you would like to see the answers, you can do so if you click of them to see the questions.
- If the researcher has enabled viewing the answers in an e-portfolio, you will be able to request the e-portfolio and see them in a web browser.
- How to request the e-portfolio:
 - i. Open the TIIM App
 - ii. Go to the study of your choice and open the module you are interested in
 - iii. Select “finished” modules by clicking on the right button
 - iv. Click “view answers in portfolio mode”
 - v. Click “Request Link”
 - vi. Check your e-mail and open the link to the e-portfolio
 - vii. Your answers can be seen in a list - which makes it easy to check answers of a particular day or a table - in order to compare progress or answers over time when the same modules have been repeatedly answered. You can also filter the table to only show a specific time frame.

Data Metrics and Export

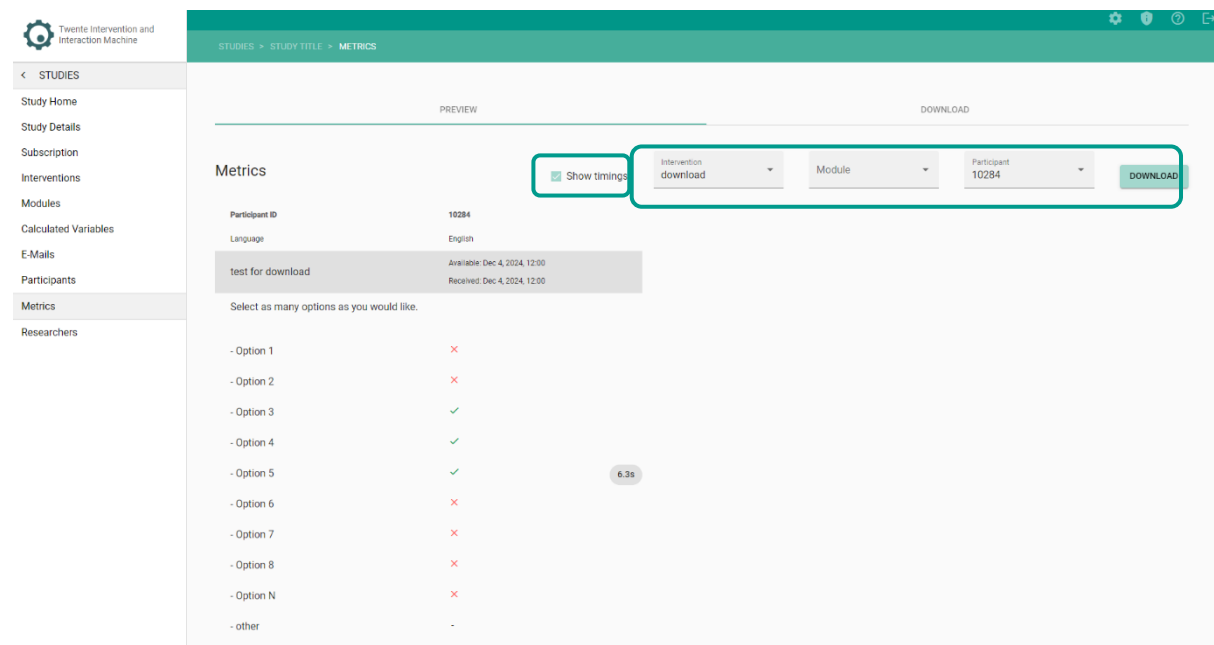
TIIM's dashboard enables you to view, download, and import the **Data Metrics** of participants to Excel and SPSS. The **Data Metrics** consists of your participant's responses. You can see the **Data Metrics** instructional video through the following link: <https://youtu.be/n75HW-6sOh4?si=0EAbWuryZHOXJxP>

Viewing & downloading your data metrics based on filters

1. On the sidebar, click on the – METRICS – page.

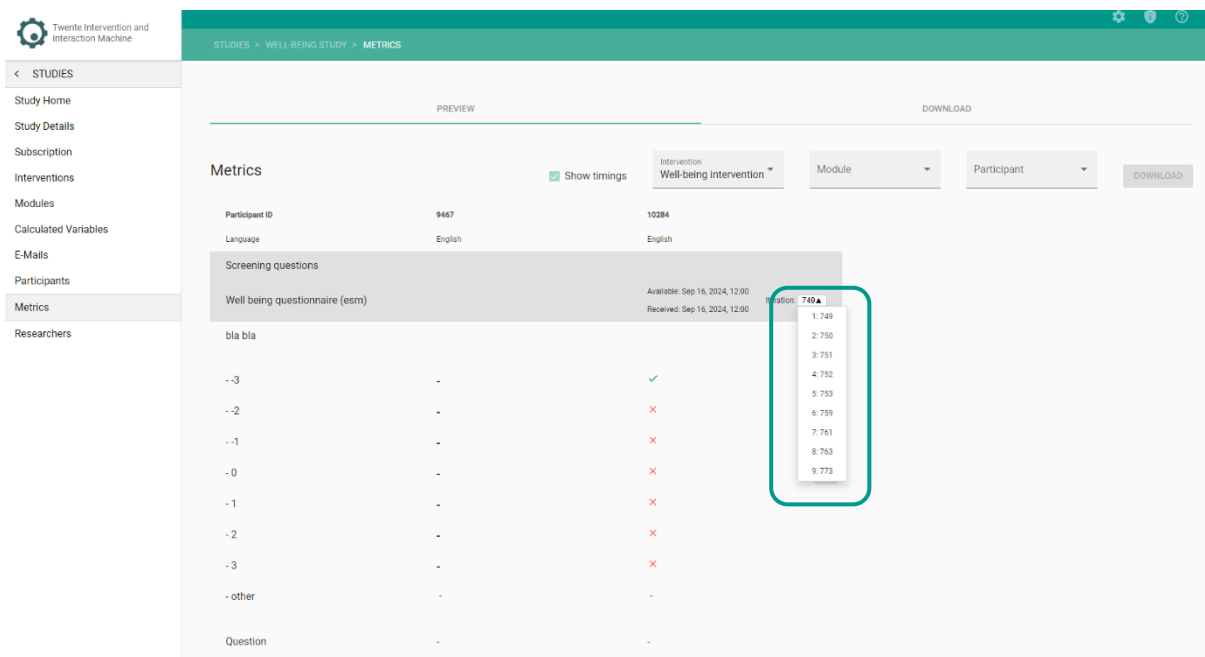


2. Select – INTERVENTION – and filter data by selecting – MODULE – and/or – PARTICIPANT –. You can tick the checkmark if you would like to see how long it took the participants to answer.

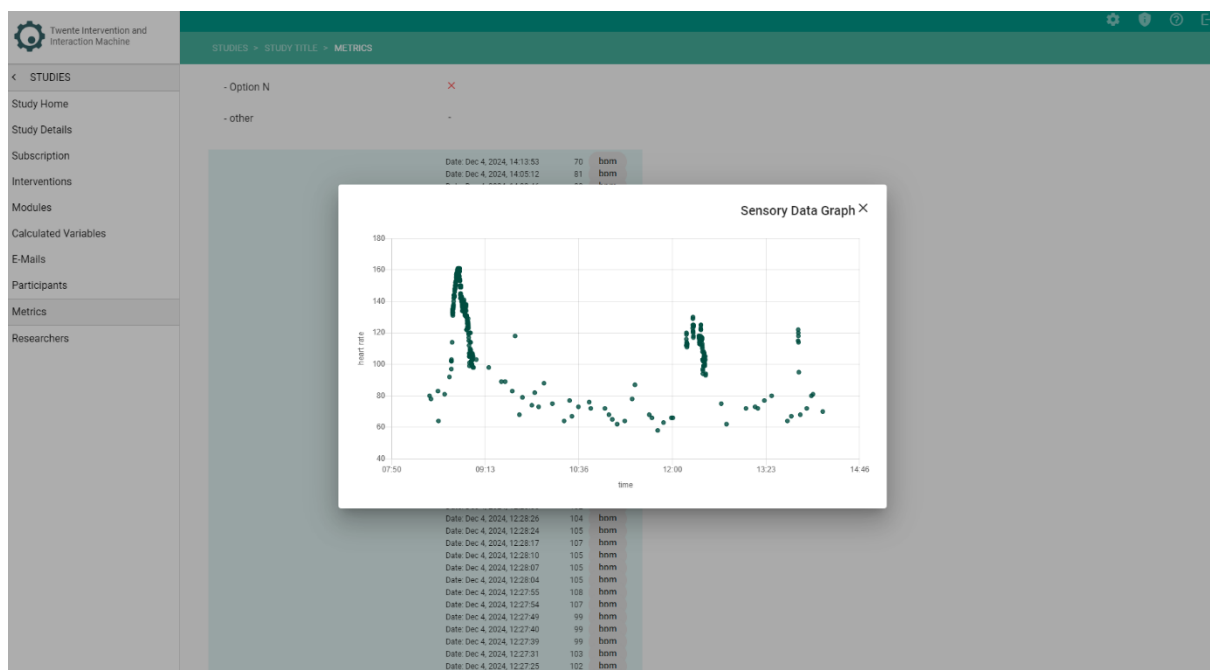




For an ESM module, a special ESM tag will be included, as well as the possibility to view the answers filtered per iteration.



3. By clicking on the sensor data, you can view the values and graphs for it.



4. Select – DOWNLOAD – to download the PDF file containing filtered data.

The screenshot shows the 'Metrics' page for a specific participant (ID 10284) in the 'WELL-BEING STUDY'. The interface includes a sidebar with navigation options like 'Study Home', 'Study Details', 'Subscription', 'Interventions', 'Modules', 'Calculated Variables', 'E-Mails', 'Participants', 'Metrics', and 'Researchers'. The main content area has tabs for 'PREVIEW' and 'DOWNLOAD'. The 'PREVIEW' tab is active, displaying a table of metrics for the participant. The table includes columns for 'Participant ID', 'Language', 'Screening questions', and 'Well being questionnaire (esm)'. The 'Well being questionnaire (esm)' section shows a list of items with corresponding status indicators (red 'X' for incorrect, green checkmark for correct). A 'DOWNLOAD' button is highlighted with a red box in the top right corner of the main content area.

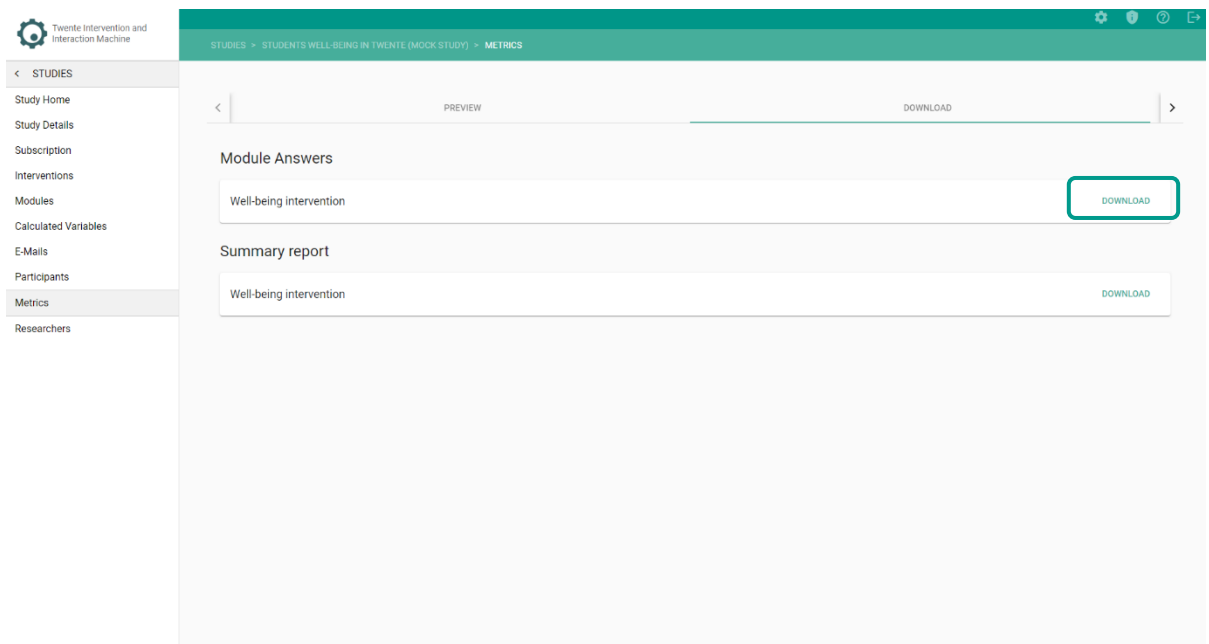
Participant ID	Language	Screening questions	Well being questionnaire (esm)
10284	English		
Screening questions			
Well being questionnaire (esm)			
Available: Sep 16, 2024, 12:00			
Received: Sep 16, 2024, 12:00			
Iteration: 759			
bla bla			
-3		X	
-2		X	
-1		✓	
-0		X	
-1		X	
-2		X	
-3		X	
- other		-	
Question		-	

Exporting your data metrics

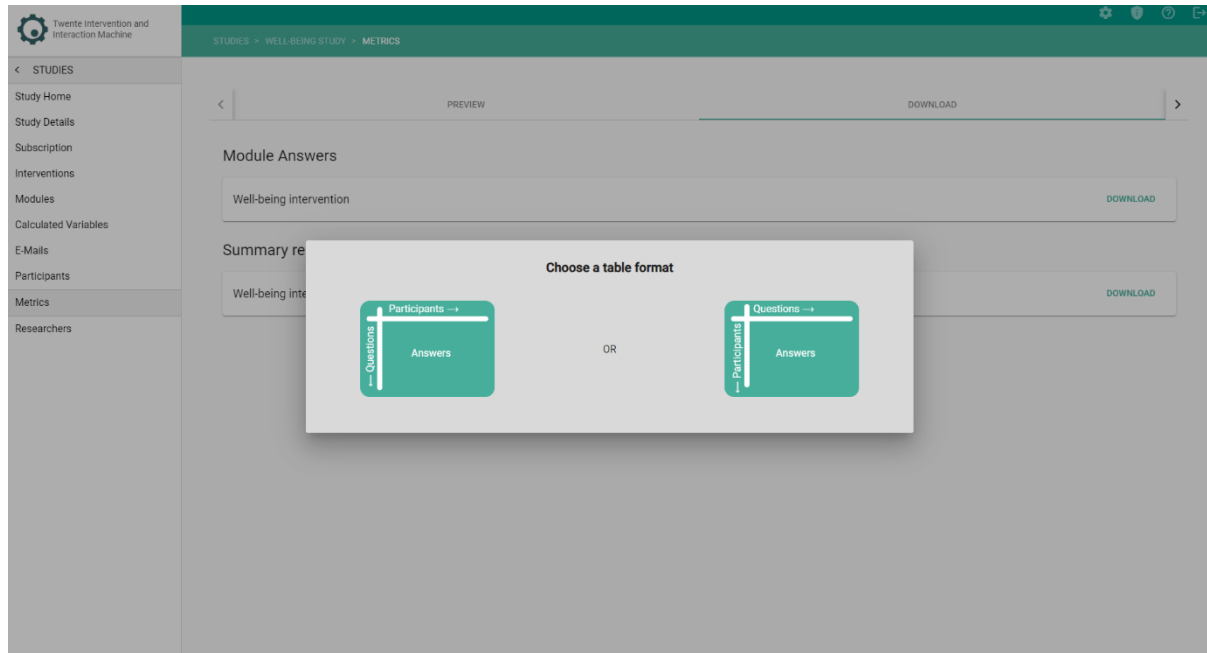
1. To download data metrics of all participants within the intervention, click on the – DOWNLOAD – tab.

The screenshot shows the 'Metrics' page in the 'Twente Intervention and Interaction Machine' interface. The sidebar on the left contains navigation options: 'STUDIES', 'Study Home', 'Study Details', 'Subscription', 'Interventions', 'Modules', 'Calculated Variables', 'E-Mails', 'Participants', 'Metrics', and 'Researchers'. The main content area has tabs for 'PREVIEW' and 'DOWNLOAD'. The 'PREVIEW' tab is active, but the 'DOWNLOAD' button is highlighted with a red box. Below the tabs, there are filters for 'Show timings', 'Intervention', 'Module', and 'Participant'. A red message states: 'Please select a filter to preview the data.'

2. Click on – DOWNLOAD – next to Module Answers of the intervention of your choice. This will download the answers of all participants for all modules for that intervention. On summary report, you can download a CSV file containing information about when the modules, reminders and notifications were sent.



3. A screen will open showing you in which format you would like to download the data.



4. Select the format of your preference and the CSV file will be downloaded.
Below you can see how the different format look like in Excel as an example.

Participants in columns (most frequently required for data analysis tools) :

Column1	Column2	Column3	Column4
Well-being intervention	Identifiers	10284	10284[timestamp]
Language	en		
Well being questionnaire	ESM-37986-301-1		
bla bla	ESM-764539		
Question	ESM-764628		
123	ESM-764546		
Well being questionnaire	ESM-37986-302-1		
bla bla	ESM-764539		
Question	ESM-764628		
123	ESM-764546		
Well being questionnaire	ESM-37986-303-1		
bla bla	ESM-764539		
Question	ESM-764628		
123	ESM-764546		
Well being questionnaire	ESM-37986-304-1		
bla bla	ESM-764539		
Question	ESM-764628		
123	ESM-764546		
Well being questionnaire	ESM-37986-305-1		
bla bla	ESM-764539	[-3]	2024/09/16 13:47:47.534
Question	ESM-764628	0	2024/09/16 13:47:45.116
123	ESM-764546	[-2]	2024/09/16 13:47:45.371
Well being questionnaire	ESM-37986-306-1		
bla bla	ESM-764539	[-3]	2024/09/18 09:50:26.387
Question	ESM-764628	1	2024/09/18 09:50:24.958
123	ESM-764546	[-3]	2024/09/18 09:50:28.240
Well being questionnaire	ESM-37986-307-1		
bla bla	ESM-764539	[0]	2024/09/20 12:20:17.609
Question	ESM-764628	0	2024/09/20 12:20:15.003
123	ESM-764546	[0]	2024/09/20 12:20:19.058
Well being questionnaire	ESM-37986-308-1		
bla bla	ESM-764539	[0]	2024/09/23 11:04:08.721
Question	ESM-764628	0	2024/09/23 11:04:05.960
123	ESM-764546	[1]	2024/09/23 11:04:09.292

Participants in rows (traditional TIIM output file):

Column1	Column2	Column3	Column4	Column5	Column6	Column7
ID Number	Intervention	Language	bla bla[2024-09-06 09:00:00-21:00:00][1]	bla bla[2024-09-06 09:00:00-21:00:00][1]	Question[2024-09-06 09:00:00-21:00:00][1]	Question[2024-09-06 09:00:00-21:00:00][1]
10284	Well-being intervention	en				

Importing for analysis

Excel

1. Open Excel.
2. In the upper row, click on – DATA –.
3. On the left, click on – GET & TRANSFORM DATA –. Select from text/CSV.
4. Choose your file. Click on – IMPORT –.
5. To import the data in Excel within divided columns, Select – DELIMITED – as a tab.
6. Click on – LOAD –.
7. **Your data will open in a new Excel workbook.**

SPSS

1. Open SPSS. Go to – FILE –.
2. Select –OPEN – in the dropdown menu.
3. Select – DATA – in the dropdown submenu.

A new window will open:

4. Select and open your CSV data.

Text Import Wizard will open:

5. In the first step, you don't change any of the settings and click on – NEXT –.
6. In the second step, set the variables arranged to – DELIMITED –.
7. Set the question – Are variable names included at the top of your file – to – Yes –.
8. Click on – NEXT –.
9. In the third step, set – the first cases of data begin on which line number – to – 2 –.
10. Click on – NEXT –.
11. In the fourth step, set the delimiter to a comma.
12. Click on – NEXT –.
13. In the fifth and sixth step, you don't change any of the settings.
14. After the sixth step, click on – FINISH –.
15. **Your data will open in a new SPSS spreadsheet.**

Glossary

Button label: In the TIIM application you can customize the text to be displayed in the buttons.

Calculated Variables: The calculated variables function is a feature within TIIM that enables you to create numeric calculation variables involving mathematical operators, functions, or conditional statements. These variables are linked to a specific numerical module item. For the linked module item, you can later provide participants with feedback based on the participants' answers.

CSV: A Comma Separated Values (CSV) file is a plain text file that contains a list of data. These files are often used for exchanging data between different applications. For example, databases and contact managers often support CSV files.

Dashboard: The dashboard is the interface of the TIIM application, where you will access, create and visualize content related to the collection of data for your study.

Dynamic text: Dynamic text refers to text that changes based on contextual or user-specific information. This can be achieved through programming or scripting that allow for the automatic updating of text based on changing conditions or user input.

Enrolment code: (also voucher code): A unique series of numbers and characters that will grant a participant access to the study. It can also be graphically presented as a QR code.

E-portfolio: new function that allows you to get an overview of your answers over time for a more in-depth comparison. answers can be seen in a list - which makes it easy to check answers of a particular day or a table - to compare progress or answers over time when the same modules have been repeatedly answered. You can also filter the table to only show a specific time frame.

ESM module: timing rule which allows for modules to repeat based on predetermined schedule.

Heart rate: In surveys that use wearable devices or sensors, respondents may be asked to wear a device that collects data on their heart rate continuously or at regular intervals.

Intervention: Interventions are collections of Modules and organize different group conditions (e.g. experimental and control) in a study.

Item: Items are the specific questions and prompts that your participants will respond to.

Module (item): Modules are self-contained collections of items, which can be combined with other modules to form a larger system.

Progress bar: Progress bars are typically used to indicate the completion of a process or the time remaining until completion.

Randomization per module/category: Randomization of question items in a survey refers to the process of randomly ordering the questions within a section or subsection of the survey. This technique is used to reduce the potential for order effects, where the order of questions may influence the responses given. For example, if a survey asks about customer satisfaction with various aspects of a product or service, randomly ordering the questions about those aspects can reduce the likelihood that respondents will be influenced by the order in which the questions are presented. This can help to obtain more accurate and unbiased responses.

Routing: Routing refers to the process of directing respondents to specific questions or sections of a questionnaire based on their previous responses. Routing questions are used to customize the survey experience for each respondent and ensure that they only see questions that are relevant to them. Routing within a module is only possible if you have 3 numerical type items or more with the exception of the last item. Examples of Routing include, if a respondent indicates that they have never used a particular product or service, they may be skipped over questions that are only relevant to users of that product or service. Similarly, if a respondent indicates that they are not interested in a particular topic, they may be directed to a different section of the survey that is more relevant to their interests.

Sensor configuration: The TIIM application can collect three types of physiological data from wearable devices: heart rate, steps and sleep.

Sleep: Objective measures of sleep, such as wearable sleep trackers use sensors to detect movement and other physiological data during sleep. These measures can provide more detailed information on sleep patterns, such as the duration and quality of each sleep stage.

Specific order with routing: Items will be presented in the order the researcher has defined in the module either through drag and drop order or, if applicable, routing.

Steps: Activity trackers may also be used to collect objective data on step counts, which can be more accurate than self-reported data. Steps measurement surveys can provide valuable information on physical activity levels and can be used to track changes in activity levels over time.

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Study: Studies are the research projects.

TIIM: Twente Intervention and Interaction Machine. TIIM is a software provided and maintained by the BMS Lab that provides researchers with the capability to study participants long-term or repeatedly (e.g.: cohort or longitudinal studies) and to present them with stimuli or measurement items (e.g.: questionnaires).

Unique name: Unique names are assigned by the researchers to facilitate their identification and are not visible by participants.

Items list

Audio recording: Participants are requested to record a private audio by pressing the red circle with the microphone symbol.

Camera image: Participants are requested to take a photo or upload a photo from their phone gallery.

Dropdown: Participants are requested to select a string value on a dropdown list. The minimum, maximum and step size values can be customized, and the choice-order can be randomized.

Emotion quadrant: Participants are requested to drag a pointer to a desired location within a quadrant. Values are calculated based on coordinate. Image is customizable (min 1500px and max 2000px).

Graph: the TIIM application can create graphs that will enable the participants to see their data over time. The

y-axis will show the module item's score while the x-axis will show its completion date. The participant clicks a button to proceed to the next item.

Likert Scale: Participants are requested to indicate their level of agreement or disagreement with a statement, using a scale (e.g., strongly agree, agree, neutral, disagree, strongly disagree). Labels are customizable.

Multi-line input: Participants are requested to type in an answer in a multiple-lines field. The maximum limit of characters is determined by the researcher.

Multiple choice: Participants are requested to select one or more options from a assortment of options.

Network: Participants are requested to add a label identifying the item, indicate the warmth of the item and then place it on one of the lines within the circle image as a response.

Number choice: Participants are requested to select a numerical value on a scale. The minimum, maximum and step size values can be customized.

Number dropdown: Participants are requested to select a numerical value from a dropdown list. The minimum, maximum and step size values can be customized.

Number input: in this type of item, participants type in a numerical value.

Number slider: in a number slider, the respondent can select a value by sliding a pointer on a left - right axis. The minimum, maximum and step size values can be customized.

Orbits: in an orbit matrix, participants are requested to select an item and place it in a location orbiting around one center.

Single-line input: Participants are requested to type in an answer in a single-line field. The maximum limit of characters is determined by the researcher.

Specialized Drag and Drop: Participants are requested to drag and drop an item (e.g., word) into a category as a response.

Statement: a Statement is a piece of text that the researcher wants the respondent to read. The participant clicks a button to proceed to the next item.

Step size: step size refers to the distance between two values.

Video/Audio: videos or audio clips can be added to the survey. The participant clicks a button to proceed to the next item. If transcription is enabled, participants need to enter the number of speakers and language before recording and can adjust it while answering. They can see the transcription in the finished modules after a while.

