REDCap Survey Development and Features

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REDCap@Yale Team
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Practice Survey Project

• What is the most valuable thing that you learned from setting up the test project?
• What is the most difficult part about setting up survey?
• Was the step-by-step tutorial useful?
Survey Distribution
Ways to send survey link to participants

1. Automatic Survey Invitation
2. Survey Queue
3. Participant list -> Compose Survey Invitation
4. Alert and Notification
5. Compose survey invitation option on the data entry form
Automatic Survey Invitations (ASI)

- Survey invitations can be scheduled to be sent automatically (i.e., without a person sending the invitation) based upon specific conditions such as if the participant completes another survey in your project or if certain data values for a record are fulfilled.

- Designate an email field for sending survey invitation before setting up automatic survey invitation.
Designate an Email Field for Automated Survey Invitations

- Project Setup -> Enable optional modules and customizations

- Enable optional modules and customizations
  - Enable Repeating instruments and events
  - Disable Auto-numbering for records
  - Enable Scheduling module (longitudinal only)
  - Enable Randomization module
  - Enable Designate an email field for communications (including survey invitations and alerts)

Additional customizations

Settings displayed to Administrators only:
- Enable Twilio SMS and Voice Call services for surveys and alerts
- Enable SendGrid Template email services for Alerts & Notifications
Designate an email field for sending survey invitations

Choose an email field to use for invitations to survey participants:
-- select a field --

You can capture email addresses for sending invitations to your survey participants by designating a field in your project. If a field is designated for that purpose, then any records in your project that have an email address captured for that particular field will have that email address show up as the participant's email address in the Participant List (unless an email address has already been entered for that participant in the Participant List directly).

Using the designated email address field can be especially valuable when your first data collection instrument is not enabled as a survey while one or more other instruments have been enabled as surveys. Since email addresses can only be entered into the Participant List directly for the first data collection instrument, the designated email field provides another opportunity to capture the email address of survey participants.

Please be aware that designating an email field means that survey responses can NEVER BE ANONYMOUS because of the fact that the participant's email address can be viewed on a data entry form, which means it is easy to identify the record/response to which the email address belongs.

NOTE: If the participant's email address has already been captured directly in the Participant List, then that email address will supersede the value of the email field here when survey invitations are sent to the participant. Also, if the email invitation field exists on multiple longitudinal events, on a repeating instrument, or on a repeating event, the field's value will be synchronized across all instances/events so that changing it in one location will change the value across all events/instances where the field appears.

Survey-specific email invitation field: While the email invitation field discussed here is a project-level setting, it is helpful to know that there also exists a survey-level email invitation field option that can be utilized for particular surveys in the project (whereas the project-level field would be applied to ALL surveys). A survey-specific email invitation field can be enabled for any given survey, in which you can designate any email field in your project to use for sending survey invitations for that particular survey. Thus, you can collect several email addresses (e.g., for a student, a parent, and a teacher) and utilize each email for a different survey in the project. Then you can send each person an invitation to their own survey, after which all the survey responses get stored as one single record in the project. See the 'Survey Settings' page in the Online Designer for this survey-level setting.
Automatic Survey Invitation

**Define Conditions for Automated Survey Invitations (ASI)**

In this pop-up you may define your conditions for automated survey invitations that will be sent out for the survey (and event, if a longitudinal project) listed in the info box below. Tell me more

**STEP 2: Conditions**

Specify conditions for sending invitations:

- **When the following survey is completed:**
  - “Contact Information” [Phone Contact Sheet]

- **AND**
  - When the following logic becomes true:
    - (e.g., [age] > 30 and [sex] = ”1”)

- Ensure logic is still true before sending invitation?

**STEP 1: Compose message**

**From:** Display name (optional) janet.miceli@yale.edu

**To:** [All participants who meet the conditions defined]

**Subject:**

Please take this survey.

You may open the survey in your web browser by clicking the link below:

[survey-link]

If the link above does not work, try copying the link below into your web browser:

[survey-url]

This link is unique to you and should not be forwarded to others.

**NOTE:** You may modify or remove any text you wish in the Compose Message text box above. Make sure you include either

**STEP 3: When to send invitations AFTER conditions are met**

- **Send immediately**
  - Send on next: [select day] at time [H|M]
  - Send the invitation [days] [hours] [minutes]
  - After [specific time] the exact time that the automated invitation was triggered
  - Send at exact date/time: [specific date/time]

**OPTIONAL: Enable reminders**

- Re-send invitation as a reminder if participant has not responded by a specified time?
Tips and Tricks for Setting Up ASI

1. Use piping to personalize the invitation message

2. If you are using a study email address to send the invitation, add the email address as a secondary email in your profile (link on top right of ‘My Project’ page). The email address will be available in the ‘From’ dropdown box on the ASI set up page.

3. If you delete the default text in the compose box, make sure to include the smart variables, [survey-link] or [survey-url], in the message that you compose.

4. You can format using HTML code or the rich text editor
Tips and Tricks for Setting Up ASI

5. If applicable, add a condition for stop logic
   • For example, if you would like the project to stop sending a
     scheduled invitation if the patient withdraws from the study, you can
     include in the condition [withdraw] <>1 and check the box ‘Ensure
     logic is still true before sending invitation’.

6. How to test if the ASI logic is set up correctly
   • You can test the ASI logic in the ‘Data Quality’ module. Add a custom
     quality rule with your ASI logic and check how many records do not
     fulfill the condition.

7. If using DateDiff function in ASI logic, make sure the fields have
   been set up with date validation.
Survey Queue

• The Survey Queue displays a list of your surveys to a participant all on a single page.
• The queue lists all surveys that are to be completed (like a 'to-do' list) as well as the surveys that the participant has already completed.
• Surveys can be set to appear in the Survey Queue based upon 1) if the participant has completed a particular survey, and/or 2) if certain conditions are met (based upon data values).
• One link for all surveys in the survey queue.
Class Exercise
How to set up survey queue

Task:
Set up Demographics Survey so that when the participant expressed interest in participating the study, the Demographics survey will be shown on the survey queue.
Class Exercise
How to set up survey queue

1. Enable Survey setting for Demographic Survey. Click ‘Save changes’ to save the default setting for the demographic survey.

2. Click ‘Survey Queue’ in online designer
3. On the survey queue page, click ‘activate’ to activate Demographics survey.

<table>
<thead>
<tr>
<th>Activated?</th>
<th>Survey Title</th>
<th>Display survey in the Survey Queue when...</th>
</tr>
</thead>
</table>
| Not activated | "Screening Survey" | - When the following survey is completed:  
  - select a survey  
  AND  
  - When the following logic becomes true:  
    [e.g., [age] > 30 and [sex] = "1"]  
    Test logic with a record:  
    -- select record --  
| Not activated | "Demographics Survey" | - When the following survey is completed:  
  - select a survey  
  AND  
  - When the following logic becomes true:  
    [e.g., [age] > 30 and [sex] = "1"]  
    Test logic with a record:  
    -- select record --  

Auto start?
4. Select “Screening Survey” from the dropdown “When the following survey is completed”.

5. Enter the condition `[pt_interested]='4'` for conditional logic.

6. Click Save.
7. Click “Add/Edit” Records on the left menu.

8. Click **Add a new record**.

9. Enter data on the registration instrument.

10. Make sure to enter your email address, so that you receive the screening survey link in your email.

11. Click the screening survey link in your email to complete the screening survey.

12. Choose “**Very interested, Please enroll me immediately**” for Study Interest Level.
13. After you submit the screening survey, you will see the survey queue page.

14. Click Begin Survey to complete the demographics survey.
Class Exercise
Test survey queue

Thank you for taking the survey.

Have a nice day!

<table>
<thead>
<tr>
<th>Status</th>
<th>Survey Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>Demographics Survey</td>
</tr>
</tbody>
</table>
Survey Queue Example

Listed below is your survey queue, which lists any other surveys that you have not yet completed. To begin the next survey, click the 'Begin survey' button next to the title.

<table>
<thead>
<tr>
<th>Status</th>
<th>Survey Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin survey</td>
<td><strong>Epworth Sleepiness Scale</strong> – V2</td>
</tr>
<tr>
<td>Begin survey</td>
<td><strong>Insomnia Severity Index</strong> – V2</td>
</tr>
<tr>
<td>Begin survey</td>
<td><strong>PROMIS SF v1.0 - Sleep Disturb 8b</strong> – V2</td>
</tr>
<tr>
<td>Begin survey</td>
<td><strong>Functional Outcomes of Sleep Questionnaire</strong> – V2</td>
</tr>
</tbody>
</table>
Participant List

• If you do not designate an email field for sending a survey, you can add participant emails directly to the participant list.

• To use this option, the first instrument of your project must be a survey.

• This is suitable for a project that involves a one-time survey from a list of participants.

• There is also the option to enable a participant identifier.
The Participant List option allows you to **send a customized email** to anyone in your list and **track who responds to your survey**. It is also possible to identify an individual's survey answers, if desired, by providing an Identifier for each participant (this feature must first be enabled by clicking the 'Enable' button in the table below). Note: All survey responses collected are considered anonymous unless you 1) are using Participant Identifiers or 2) have enabled the designated email field for invitations. **More details**
Alert and Notification

• Can be used to send survey link to participants.
• Participant email should be collected in a project field.
• Can set up trigger condition.
• To send a survey link or survey queue link, include the relevant survey smart variable in the message.
• Refer to REDCap Training 201 slides or FAQ on REDCap@Yale website on how to set up alert and notification.
### Survey Smart Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>![is-survey]</td>
<td>Detects if the current instrument is being administered as a survey (returns 1 for True, 0 for False), as opposed to a form.</td>
<td>![is-survey]</td>
</tr>
<tr>
<td>![survey-url: instrument]</td>
<td>The web address (URL) of the specified survey for the current record/event-instance. The format must be [survey-url]:instrument, in which 'instrument' is the unique form name of the desired instrument. This can be used simply as [survey-url] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>![survey-url:instrument]</td>
</tr>
<tr>
<td>![survey-link: instrument: Custom Text]</td>
<td>The HTML web link that, when clicked, will navigate to the specified survey for the current record/event-instance. The format must be [survey-link]:instrument:Custom Text, in which 'instrument' is the unique form name of the desired instrument. 'Custom Text' is an optional parameter whereby you can specify the visible link text, and if it is not provided, it defaults to the survey title of the survey. The format [survey-link:Custom Text] can also be used if the instrument is assumed, such as when viewing a form or in a survey invitation. Also, it can be used simply as [survey-link] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>![survey-link:instrument: Custom Text]</td>
</tr>
<tr>
<td>![survey-access-code: instrument]</td>
<td>The Survey Access Code of the specified survey for a given record/event-instance. The format must be [survey-access-code]:instrument, in which 'instrument' is the unique form name of the desired instrument. This can be used simply as [survey-access-code] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>![survey-access-code: instrument]</td>
</tr>
<tr>
<td>![survey-return-code: instrument]</td>
<td>The Survey Return Code of the specified survey for a given record/event-instance in order to allow a participant to return to a completed or partially completed survey response when using the 'Save &amp; Return Later' survey feature. The format must be [survey-return-code]:instrument, in which 'instrument' is the unique form name of the desired instrument. This can be used simply as [survey-return-code] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>![survey-return-code: instrument]</td>
</tr>
</tbody>
</table>
Compose survey invitation option on the data entry form
Compose survey invitation option on the data entry form
Other Survey Features
Survey Login

- Select field(s) that you wish to serve as the login fields for the respondent to enter.

<table>
<thead>
<tr>
<th>Enable Survey Login?</th>
<th>Disabled</th>
</tr>
</thead>
</table>

**Fields to display on the survey login form**

| Login field #1 | "fname" "<div class="rich-text-field-label">"<p> |

**Customizations for survey login**

| Minimum number of fields above that are required for login | 1 |
| Apply the survey login to all surveys in project? | All surveys |

**Custom error message:** Provide a custom error message that will be displayed on the survey login form for when the user experiences issues, such as not being able to log in successfully, so that they may contact you for help.

*EXAMPLE:* "If you have any trouble logging in to the survey, please contact <a href="mailto:survey_admin@myinstitution.edu">survey_admin@myinstitution.edu</a> for help."

**Security settings for survey login (optional)**

| Number of failed login attempts before respondent is locked out for a specified amount of time, which is set below. | 0 = Disabled |
| Amount of time respondent will be locked out after having failed login attempts exceeding the limit set above. | Minutes, 0 = Disabled |
Survey Notifications

If you or other users wish to be notified via email every time a participant completes a survey, select the users to be notified under each survey listed below by selecting their email address in the user's drop-down list, which may contain each user's primary, secondary, or tertiary email address for their REDCap account. To remove a user as a recipient for the survey notifications, change their email drop-down option to 'not selected', after which they will no longer receive notification emails for that survey.

<table>
<thead>
<tr>
<th>Survey Name</th>
<th>Recipient email address</th>
<th>Notifications Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recruitment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
<tr>
<td><strong>Female Survey</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
<tr>
<td><strong>Male Survey</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
</tbody>
</table>
Project Testing
1. Always test your project before collecting study data.
2. Add yourself as study participant.
3. Enter data to trigger any automatic survey invitation.
4. Confirm the survey invitation text and survey link are correct.
5. Enter survey data as study participant and confirm survey works as expected.
6. Have other study team members to test the surveys.
How to track survey responses?
Survey Distribution Tools

- **Participant List**
  - Choose the survey from the drop-down box
  - List of participants for the selected survey will be shown
  - You can track who responded to your survey
  - You can send customized email to anyone on the list
  - You can click the links in the record and responded column to access the record

The Participant List option allows you to send a customized email to anyone in your list and track who responds to your survey. It is also possible to identify an individual's survey answers, if desired, by providing an identifier for each participant (this feature must first be enabled by clicking the 'Enable' button in the table below). Note: All survey responses collected are considered anonymous unless you 1) are using Participant Identifiers or 2) have enabled the designated email field for invitations. More details.
Survey Distribution Tools

- **Survey Invitation Log**
  - View past or future invitations (Default view is future invitations)
  - Log can be filtered by invitation types, surveys, records or response status
  - You can view the invitation email itself by clicking the icon in the 'View Email' column
  - Option to delete scheduled invitations

Listed below are the survey invitations that have already been sent or have been scheduled to be sent to survey participants in this project. For each invitation it displays the participant email, participant identifier (if exists), survey name, and the date/time in which the invitation was (or will be) sent. You may even view the invitation email itself by clicking the icon in the 'View Email' column. Please note that all times below correspond to the time zone "America/New_York", in which the current time is 04/28/2022 8:23pm.
User Rights
Survey Distribution Tools must be enabled in the user rights page in order to access participant log and survey invitation log.
Enable the ‘Edit survey response’ right if you need to edit data on completed survey.

<table>
<thead>
<tr>
<th>User Right</th>
<th>No Access (Hidden)</th>
<th>Read Only</th>
<th>View &amp; Edit</th>
<th>Edit survey responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver Demographics</td>
<td>○</td>
<td>○</td>
<td>◆</td>
<td>○</td>
</tr>
<tr>
<td>Caregiver Health</td>
<td>○</td>
<td>○</td>
<td>◆</td>
<td>○</td>
</tr>
<tr>
<td>PANAS</td>
<td>○</td>
<td>○</td>
<td>◆</td>
<td>○</td>
</tr>
<tr>
<td>Caregiver CESD10</td>
<td>○</td>
<td>○</td>
<td>◆</td>
<td>○</td>
</tr>
<tr>
<td>NPI</td>
<td>○</td>
<td>○</td>
<td>◆</td>
<td>○</td>
</tr>
<tr>
<td>Caregiver ECR-RS</td>
<td>○</td>
<td>○</td>
<td>◆</td>
<td>○</td>
</tr>
</tbody>
</table>
QUESTIONS?
REDCap@Yale Team

Top Row
Denise Acampora
Katy Araujo
Peter Charpentier
Kraig Eisenman
Brian Funaro

Bottom Row
Mary Geda
Tyler Hamilton
Dana Limone
Janet Miceli
Jesse Reynolds
Sui Tsang

toprow: Denise Acampora, Katy Araujo, Peter Charpentier, Kraig Eisenman, Brian Funaro
bottomrow: Mary Geda, Tyler Hamilton, Dana Limone, Janet Miceli, Jesse Reynolds, Sui Tsang

redcap@yale.edu
Thank You!

Contact us at REDCap@yale.edu
Additional Reference Material
### Survey Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Survey Title</strong></td>
<td>Title to be displayed at the top of the survey page</td>
</tr>
<tr>
<td><strong>Survey Instructions</strong></td>
<td>Text displayed at top of survey after title. Can use the rich text editor to format the text</td>
</tr>
<tr>
<td><strong>Logo</strong></td>
<td>Optional, display an image above the survey title. If using logo, you can choose to hide survey title on survey page</td>
</tr>
<tr>
<td><strong>Enhanced radio buttons and checkboxes</strong></td>
<td>Larger buttons and checkboxes. Color will change when selected</td>
</tr>
<tr>
<td><strong>Size of survey text</strong></td>
<td>Normal, large, very large</td>
</tr>
<tr>
<td><strong>Font of survey text</strong></td>
<td>18 choices of fonts to choose from</td>
</tr>
<tr>
<td><strong>Survey theme</strong></td>
<td>11 themes to choose from. You can also create your own custom theme</td>
</tr>
<tr>
<td><strong>Survey design preview</strong></td>
<td>Preview your survey in the preview box. If using enhanced button, try clicking the buttons to see the color change</td>
</tr>
</tbody>
</table>
## Survey Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Question Numbering**                                | • **Auto numbered** – Question number automatically added to each question. Cannot be used if there is branching logic.  
• **Custom numbered** – REDCap will not add any question number but you can include the question number in the question label.                     |
<p>| <strong>Question Display Format</strong>                            | All on one page or one section per page                                                                                                                                                            |
| <strong>Allow participants to download a PDF of their responses at end of survey</strong> | This option will not be available if the auto-continue or survey queue auto-start option is enabled                                                                                                     |
| <strong>Save a PDF of completed survey response to a File Upload field</strong> | A PDF copy of the survey response will be immediately stored in the field specified in this setting whenever a participant completes this survey.                                                                   |
| <strong>Survey-specific email invitation field</strong>            | If using different email fields for sending different surveys, this setting can be used to specify which email field to use for each survey.                                                                  |</p>
<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 'Required' fields, display the red 'must provide value' text on the survey page</td>
<td>Default is yes, option to suppress the display by choosing no</td>
</tr>
<tr>
<td>Allow survey respondents to view aggregate survey results after completing the survey</td>
<td>After completing the survey, participants can view ALL responses in aggregate graphical format and/or as descriptive statistics. Also, the individual respondent's answers will be highlighted in the results.</td>
</tr>
<tr>
<td>Text-To-Speech functionality</td>
<td>Allows text on survey page to be read audibly to participants.</td>
</tr>
<tr>
<td>Response Limit (optional)</td>
<td>Maximum number of responses to collect. Prevents respondents from starting the survey after a set number of responses have been collected.</td>
</tr>
<tr>
<td>Time Limit for Survey Completion (optional)</td>
<td>The amount of time that each respondent has to complete the survey based on when they were initially sent the survey invitation. Note: This feature excludes public survey links</td>
</tr>
</tbody>
</table>
# Survey Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Survey Expiration (optional)</strong></td>
<td>Time after which the survey will become inactive.</td>
</tr>
<tr>
<td><strong>Allow 'Save &amp; Return Later' option for respondents?</strong></td>
<td>Allow respondents to leave the survey and return later.</td>
</tr>
<tr>
<td><strong>Auto-continue to next survey (Optional)</strong></td>
<td>Automatically start the next survey instrument after finishing this survey.</td>
</tr>
<tr>
<td><strong>Redirect to a URL</strong></td>
<td>Redirect to a webpage when survey is completed</td>
</tr>
<tr>
<td><strong>Survey Completion Text</strong></td>
<td>Displayed after survey is completed as 'thank you' text</td>
</tr>
<tr>
<td><strong>Prevent survey responses from being saved if the survey ends via Stop Action?</strong></td>
<td>If a Stop Action triggers the end of the survey, you may choose to keep the submitted responses or to prevent them from being saved as data in the project.</td>
</tr>
<tr>
<td><strong>e-Consent Framework</strong></td>
<td>For use with eConsent</td>
</tr>
<tr>
<td><strong>Send confirmation email (optional)</strong></td>
<td>Email the respondent when they complete the survey</td>
</tr>
</tbody>
</table>