



QDS V4.0

New Features Documentation

NOVA Research Company

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Design Studio Features

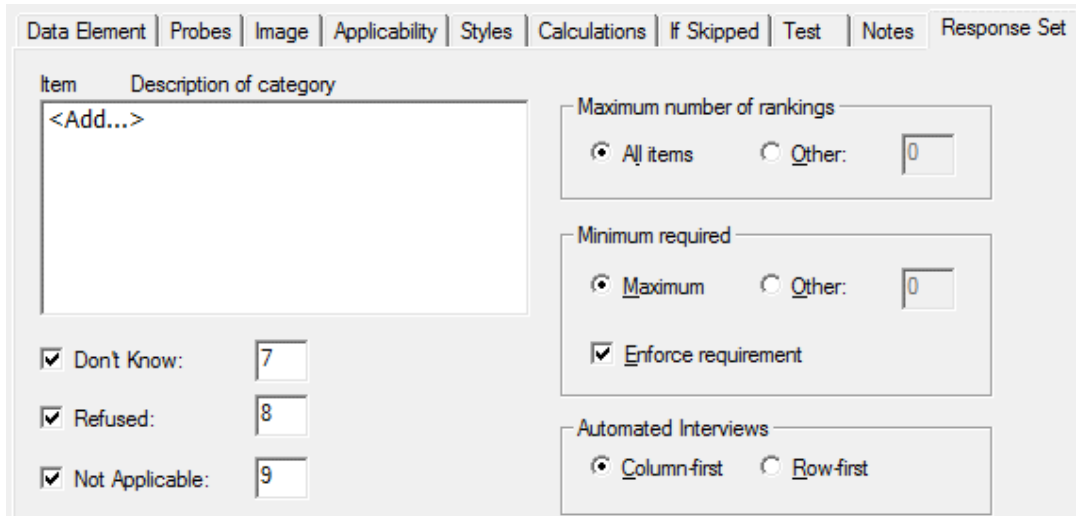
The following features are new to v4.0 Design Studio.

Data Element: Ranking Response Type

In the Design Studio, there is a new Data Element Ranking Response Type to allow respondents to rank multiple categories. You can set both the maximum number of responses that *can* be ranked and the minimum number that *must* be ranked.

For example, you can have a question asking your respondent “What are your favorite weekend activities? Rank your top three choices:” for which you require them to rank choices 1, 2, and 3. Alternatively, you might ask them to “Rank a maximum of three choices” where they are only required to rank one or two choices.

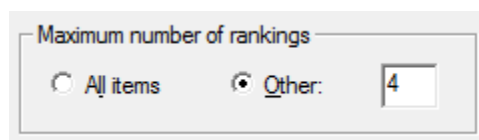
Ranking items are similar to check all that apply, in that responses will output multiple variables to the data file. You may also set up Response Cards for Ranking items for sets of responses that will be used for multiple questions.



Adding a Ranking Item

After adding a Data Element to your survey, select *Ranking* for the Response Type on the *Data Element* tab.

- On the *Response Set* tab, select options including:
 - Maximum number of rankings:** Select whether to require ranking of All Items (default setting) or *Other* number of rankings. When *Other* is selected, the box to the right will be enabled. Any number between '2' and a number less than or equal to the number of categories entered is valid. For example, if there are a total of 5 categories, a number between 2 and 5.



- **Minimum required:** Select whether to require ranking of the Maximum (default setting) or *Other* number of rankings. When *Other* is selected, the box to the right will be enabled. Any number between '1' and the number specified under Maximum is valid. For example, if there are a total of 5 categories and the maximum number of rankings is '4', a number between 1 and 4.

- **Enforce requirement check box:** If checked, respondent must enter the required minimum number of rankings (default setting). When unchecked, if less than the required categories are ranked, QDS displays a warning dialog box with “Try again”, which returns user to the current ranking screen, or “Use Anyway”, which allows the response.
2. Enter Ranking categories:
 - 1) Under **Item/Description of category**, select <Add...> to enter categories for the current Data Element (similar to entering check all that apply type responses).

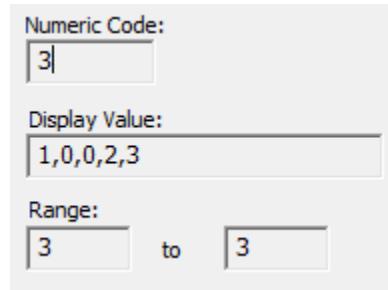
- 2) Add 'Description', which will become the variable label in exported data and will also be included in codebook documentation.
- 3) Add or modify variable name suffix, audio file, or button text (*optional*).
- 4) Click *OK*.
- 5) Continue adding ranking items until category list is complete.

Ranking Variables

Similar to check all that apply type responses, each ranking response option will have its own variable in the output data file. The variable's value will indicate the entered ranking number. The resulting variable names will be the variable name from the *Data Element* tab plus the variable name suffix. The component variables (ranking responses) will always appear at the end of a QDS dataset variable listing rather than being listed with their corresponding composite variable.

In addition, a single variable indicating *how many* items were ranked will be written out to the data file. This variable name will match the variable name entered on the *Data Element* tab. Its display value in the Warehouse Manager and summary report file will be a string of numbers corresponding to the ranked

response numbers. For example, if 5 responses out of 5 choices were ranked, you might have 1,5,2,3,4; while if 3 responses out of 5 choices were ranked: 1,0,0,2,3 (the 0's represent non-ranked choices).



The image shows a configuration window for ranking variables. It contains three input fields:

- Numeric Code:** A text box containing the number "3".
- Display Value:** A text box containing the sequence "1,0,0,2,3".
- Range:** Two text boxes, both containing the number "3", with the word "to" positioned between them.

See [Response Set Tab: Ranking](#) and [Ranking Variables](#) for more information in QDS online help.

Automatic Variable New Type: Version

A new type of Automatic Variable stores the current QDS version of the module (CAPI, ACASI, Data Entry, or QDS-Web) that is running an interview. For example, “4.0.0.3”.

To add a *Version* Automatic Variable in the Design Studio:

1. Select **Edit|Insert**.
2. Select the Element Type *Automatic Variable* and click *OK*.
3. On the *Automatic Element* tab, enter a variable name in the *Variable Name* box.
4. Select the “QDS Version” under Type of data to be stored.
5. Enter a label in the *Variable Label* box.
6. Note: The *Character String* and *Numeric Calculation/String Expression* fields are disabled.
7. Select *OK*.

Automatic Element | Notes

Variable Name: Type of data to be stored: Variable Label:

Character String: Missing Code:

Numeric Calculation/String Expression:

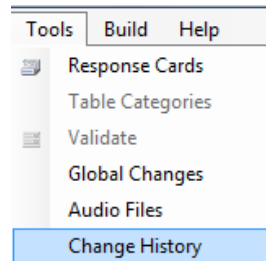
Do not include in exported data set

Annotated Change History Document

The Change History documentation can now include annotations that are added in the Design Studio. Annotations are separate entries in the Change History report and are not linked to individual change records. They are listed in the Change History report with the date and time when the entry was made.

Adding Annotations to Change History

1. To add an annotation, select **Tools | ChangeHistory** in the Design Studio.



2. Enter the following in the Change History Annotation box:
 - **Title:** Type of changes—e.g., Change to Terminology, Modification of Numeric Codes (*optional*)
 - **User name:** Individual who is making changes to the file (*optional*)
 - **Details:** A description of the changes that are being made.

 A screenshot of the 'Change History Annotation' dialog box. It has a title bar with a close button. The dialog contains three input fields: 'Title:' with the text 'Interviewer ID', 'User name:' with the text 'YH', and 'Annotation:' with the text 'Added Interviewer ID'. At the bottom right, there are 'OK' and 'Cancel' buttons.

3. Select *OK*.
4. To create your Change History, Go to **Build | Change History**. QDS will generate a Rich Text Format (RTF) document with a list of all changes and annotations made to the specifications file.

Change History Document Annotations

In the Change History document, the word 'Annotation' will be listed under the **Element Type** column for all annotation records. If a title for an annotation was entered, it will be listed in the '**Title**' column; if a user name was entered, it will be listed in the '**Action**' column; details are listed under the '**Question**' column. Date and time stamps are always included.

Change History Report

Element Type	#	Action	Title	Question	Changed Items	Date/Time
Annotation		YH	Interviewer ID	Added Interviewer ID		03/15/16 04:59PM
Data Element	8	Insert	Data collected for Interviewer ID	Interviewer ID		03/15/16 04:58PM
Annotation		TG	BSI2 deleted	Removed variable BSI2		03/15/16 04:53PM
Data Element	33	Delete	Data collected for Faintness	In the last 2 weeks, how much were you distressed by:Faintness		03/15/16 04:52PM
Annotation		JH	Changed DOB	Changed latest date allowed for DOB to 01/01/1997		03/15/16 04:50PM
Data Element	20	Update	Data collected for What is your date of birth?	What is your date of birth?	Response set attributes	03/15/16 04:49PM
Data Element	21	Update	Data collected for How old are you?	How old are you?	Response set attributes	03/15/16 04:34PM
Annotation		LS	Age Range Change	Changing allowable age range to 18-35.		03/15/16 04:34PM

See [Building a Change History File](#) for more information in QDS online help.

Item IDs

Item IDs are unique identifiers for Skip, Edit, Information, and Section Header Elements defined on the Design Studio *Skip Element*, *Edit Element*, *Info Element*, and *Section Header Element* tabs.

If an Item ID is not assigned a name when the element is defined, the Validate or Build function will auto-populate the ID using the format, <element-type>-<sequence number>. For instance, in the example below, the Item ID for the Section Header Element is automatically named as **Sect-2**.

The screenshot shows the 'Section Header Element' configuration dialog with the following settings:

- Reset Question Number Prefix**: New Prefix: DEM, Translated Prefix: (empty)
- Reset Question Number Integer**: New Integer: 1
- Page break**: Item ID: Sect-2
- Text for Heading:**: Demographics

Alternately, you can assign the element a custom Item ID. For instance, in the example below, the Item ID has been set to **Sect_Demographics**.

The screenshot shows the 'Section Header Element' configuration dialog with the following settings:

- Reset Question Number Prefix**: New Prefix: DEM, Translated Prefix: (empty)
- Reset Question Number Integer**: New Integer: 1
- Page break**: Item ID: Sect_Demographics
- Text for Heading:**: Demographics

Item ID Details

- Item IDs are updated with **Tools|Validate** or **Options|Build** as elements are added or removed.
- The Validate function will display an error message if any Item ID names duplicate existing Item IDs or variable names.
- It is possible to search for Items IDs using the **Edit|Find** function; names are not case sensitive.

- Item IDs may contain up to 35 characters; certain special characters (e.g., ampersands, backslashes, curly braces, spaces, and commas) are disallowed. Item IDs for Skip Instructions may contain an ampersand if used to form an “&C” substitution token.
- Once an Item ID name has been assigned (by the user or the Validate/Build function), the name will not be updated/replaced by the Validate/Build function.
- Item IDs are included in Codebook and Skip-Edit check report documentation.

See [Skip Elements](#) and [Edit Elements](#) for more information in QDS online help.

Redesigned and Enhanced Codebook Documentation

The Rich Text Format (RTF) codebook produced by the Design Studio was enhanced to include a count of the total number of variables and a listing of Identifier variables.

The following build options were also added:

- (a) Data Element and Automatic Variable Element notes
- (b) Information Element instructions and notes
- (c) Skip Element instructions and notes
- (d) Edit Element instructions and notes
- (e) Section Header text and notes
- (f) Date, time of day, and time span component variables
- (g) Colors to distinguish elements types

Building the RTF Codebook File

To build the RTF codebook:

1. Go to **Build | Codebook** and select the select Rich Text Format (RTF) option from the **Save as type** drop down box.
2. In the *File Name* box, specify a name for the codebook file. The default filename is the name of your Specifications File name plus *Codebook.RTF*. Default location is the same folder as the Specifications File.
3. Select the *Options* button to indicate which components should be included.
4. Click *Save*.
5. You will be prompted: "Would you like to open the RTF document now?" If you respond *Yes*, QDS will launch your default word processor (e.g., MS Word) and open the newly created Codebook File. If you respond *No*, you will return to the Design Studio (but the Codebook file will still be created).

Enhanced Codebook Options

To select which options to include in the codebook, go to **Options | Build, Codebook** (or **Build | Codebook, Options** button) in the Design Studio, and check desired options. By default, all options are initially unchecked.

The screenshot shows a dialog box with two sections: 'Include' and 'Style'. The 'Include' section contains six items, each with a checked checkbox: 'Data Element and Automatic Variable Element notes', 'Information Element instructions and notes', 'Skip Element instructions and notes', 'Edit Element instructions and notes', 'Section Header text and notes', and 'Date, time of day, and time span component variables'. The 'Style' section contains one item with a checked checkbox: 'Use colors to distinguish element types'.

Examples of Codebook Updates

Note: The "Use colors to distinguish element types" option differentiates between types of information being displayed (e.g., blue for Information Element label). Item IDs are listed for all Information, Section, Skip, and Edit Elements.

Information Element instructions and notes

Info-1.	(For Respondent) The date is recorded as [TODAY] and the start time is recorded as [STTIME]. <i>Notes: Information Element for Time and Date</i>
----------------	--

Data Element notes

PRE1.	Subject ID: SUBJECT Subject 1000 - 9000 = range	4
<i>Notes: Staff Required to validate.</i>		

Date variable with component variables

Date

DEM5. What is your date of birth?	
DOB	date of birth 1/1/1900 - 12/31/2100 = mm/dd/yyyy 2097 = Don't Know (Year) 2098 = Refuse to Answer (Year)
DOBY	Year: date of birth 1900 - 2100 = range 2097 = Don't Know 2098 = Refuse to Answer
DOBM	Month: date of birth 1 - 12 = range 97 = Don't Know 98 = Refuse to Answer
DOBD	Day: date of birth 1 - 31 = range 97 = Don't Know 98 = Refuse to Answer

Edit Element instructions and notes

Edit-CigTimesCheck.	If (CIG_YES > CIG_WEEK), Loop back to question T3 <i>Display message: You reported smoking more cigarettes yesterday ([Response to T4]) than in the past 7 days ([Response to T3]). Please review your responses.</i> <i>Notes: Loop back if reported smoking more cigarettes yesterday than in the past 7 days</i>
----------------------------	--

Skip Element instructions and notes

Skip-1.	If (RACEF ^= 1), Skip RACE_O <i>Notes: Skip for Race not equal to Other.</i>
----------------	--

If the Skip Element option is checked, skip codes are listed for Data Elements that can be skipped during the interview.

TU2.	How old were you the first time you smoked a cigarette?
CIG_AGE	How old were you the first time you smoked a cigarette
	1 - 96 = range
	97 = Don't Know
	98 = Refuse to Answer
	99 = skipped

Listing of Identifier Variables

<u>Identifier variables</u>	
Site:	SITEID
Subject:	SUBJECT
Other IDs:	VISIT

Count of total number of variables

Total variables: 501

See [Codebook Rich Text Format \(RTF\)](#) for more information in QDS online help.

Codebook in CSV (Spreadsheet compatible) Format

The Design Studio now supports a comma-separated file format (CSV) that can be imported into a spreadsheet program like MS Excel. In this format, two files are created; the first includes details about all of the Elements in the codebook; the second includes all value labels associated with each variable included in the main codebook.

Building the CSV Codebook File

1. Go to **Build | Codebook** and select the Codebook CSV (Comma delimited) (*.CSV) option from the *Save as type* drop down box.
2. In the *File Name* box, specify a name for the codebook file. The default filenames are the name of your Specifications File plus *Codebook.CSV* and *Codebook Values.CSV*. The default location is the folder in which the Specifications File resides.
3. Select the *Options* button to indicate which components should be included.
4. Click *Save*.
5. QDS will list the names and locations of the Codebook and Value Labels files.

Build Options

To select which options to include in the codebook, go to **Options | Build, Codebook** (or **Build | Codebook, Options** button) in the Design Studio, and check desired options. By default, all options are initially unchecked. Note that the option to “Use colors to distinguish element types” applies only to RTF codebook files.

Codebook File Format

The codebook file is organized by rows and columns; each row corresponds to an element in the Design Studio specifications file and each column contains details about the element. The CSV format file can be imported directly into a spreadsheet format (e.g., MS Excel). By default, the codebook will include the attributes of all Data Elements and Automatic Variables. Using the codebook build options, the user may also choose to include Information Elements; Section Headers; Skip Instructions; Edit Elements; component variables associated with Date, Time of day, and Time span variables; as well as notes associated with various element types. A “Studio Order” number that corresponds to the order of elements in the Design Studio is also included in the codebook file.

The following information is included for each type of element:

Data Elements

- Studio order
- Element type
- Data type (e.g., Numeric, Text)
- Variable name
- Variable label
- Name of composite variable¹

¹ Applies only to date, time, time span, and check all that apply component variables

- Item ID(i.e., question number)
- Response type
- Text (i.e., question text)
- Notes
- Length
- Minimum
- Maximum
- Value label (if “Use SAS compliant names for value labels” is checked, the label will follow naming conventions for SAS format names)

Automatic Variables

- Studio order
- Element type
- Data type (e.g., Numeric, Text)
- Variable name
- Variable label
- Expression
- Notes
- Length

Information Elements

- Studio order
- Element type
- Item ID(e.g., Info-1 or custom name)
- Text
- Notes

Section Header Elements

- Studio order
- Element type
- Item ID(e.g., Sect-1 or custom name)
- Text
- Notes

Skip Elements

- Studio order
- Element type
- Item ID(e.g., Skip-1 or custom name)
- Expression
- Destination
- Notes

Edit Elements

- Studio order
- Element type
- Item ID(e.g., Edit-1 or custom name)
- Expression
- Destination
- Display message
- Notes

Value Labels List

The second file created with the CSV Codebook build is a list of descriptive labels associated with each value label included in the main codebook. For each value label that appears in the main codebook (e.g., YESNO), the Value Labels List file will include a row for each numeric value associated with that label. For example, the list of value labels associated with the YESNO label (assuming that *Don't Know* and *Refuse to Answer* are valid responses) might appear as follows.

YESNO	0	No
YESNO	1	Yes
YESNO	7	Don't Know
YESNO	8	Refuse to Answer

Note that component variables (the response choices) associated with check all that apply and ranking type responses will generally not have specific value labels as each is a separate variable.

If the Codebook build option for “Use SAS Compliant names for value labels” is selected, value labels are made compliant with rules for SAS format names. This changes the naming of formats in the following ways:

- 1) If a variable name ends in a number, the last character of the corresponding value label name is changed to a letter. In general, “0” is changed to “A”, “1” to “B”, “2” to “C”, etc. However, if the modified name conflicts with another label, then a different letter is assigned.
- 2) If a variable name matches a SAS supplied format name, such as “SSN” or “YYMM”, then the value label is changed to “X” plus the first 7 characters of the variable name. For example, “SSN” would be output as “XSSN” and “YYMM” as “XYMM”.
- 3) If a variable is a text type response, then the value label will start with a “\$”. For example, if the variable name is “Other”, then the value label will be “\$Other”.

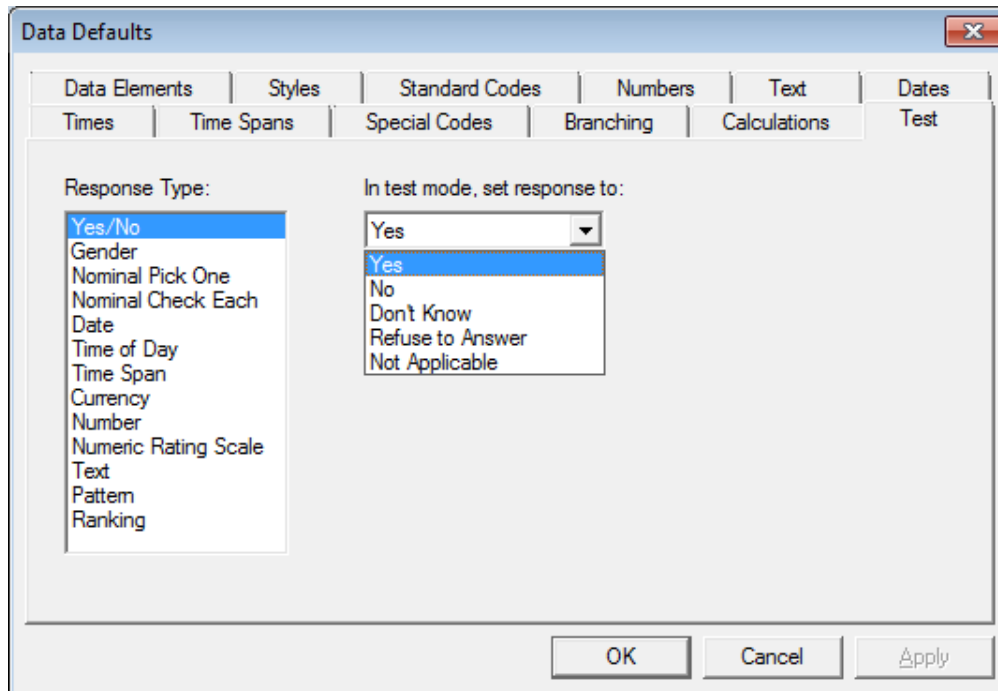
See [Codebook CSV \(Comma Delimited\)](#) for more information in QDS online help.

Data Element and Data Default Test Tabs

To support the new Design Studio testing features (see [Skip-Edit Check Report](#) and [Preview Mode](#)) it is now possible to assign test values to all data elements in a specifications file either globally or individually.

Setting Global Test Values

The updated Data Defaults property sheet includes a new *Test* tab that allows you to set default test values for each response type.



To set default test values:

1. Go to **Options|Data Defaults, Test** tab
2. Select response type from the *Response Type* list box
3. Select the test mode response from the dropdown box (first item in the dropdown list is the system default)
4. Continue to assign test settings for additional response types
5. Select *OK*

Test mode settings, along with all other Data Defaults settings, can also be saved to a User Options file for later use (e.g., with a different Design Studio file or to restore these settings for the same file at a later date).

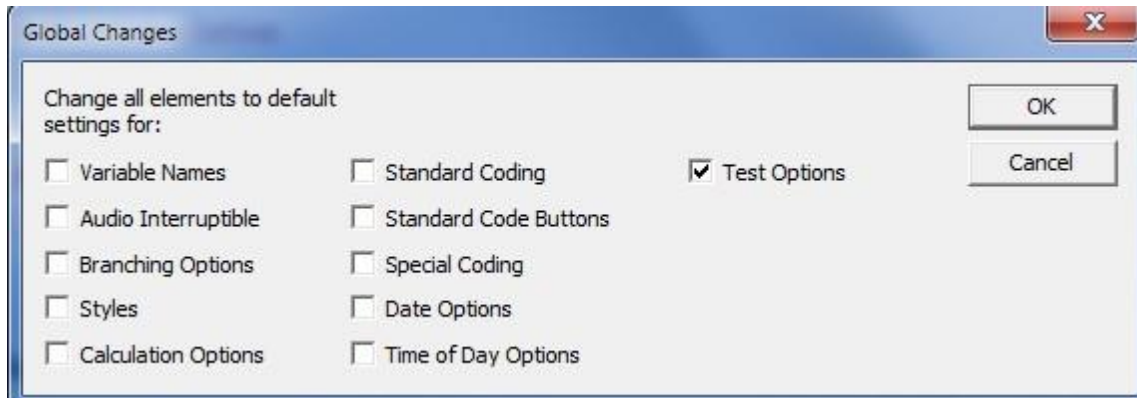
To create a *Users Option* file, select **Options|Save to User Options**.

The new defaults will automatically be used for elements added to the specifications file after updating defaults. Existing specifications—i.e., those added to the file before updating testing defaults—will retain the system testing defaults unless/until manually updated or updated via the Global Changes feature (see below).

Applying Test Defaults Globally

The Global Changes Test Options setting can be used to apply the new default test values to existing specifications. To apply new defaults to existing specifications:

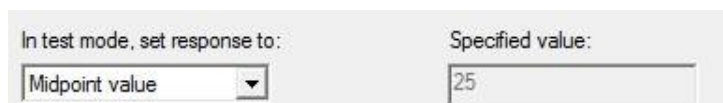
1. Go to **Tools|Global Changes**
2. Check the *Test Options* box
3. Click *OK*



Once the global change is applied, test values for existing Data Elements will be reset to the value specified on the Data Defaults *Test* tab. If a setting does not comply with the options set for a specific element, no change will take effect. For example, if the default setting for a Nominal Pick-One response is *Don't Know* and an Element doesn't allow this type of response, no change will be made to the Element's test settings.

Setting Individual Data Element Test Values

To assign test values to individual questions, the Data Element property sheet has been updated to include a new *Test* tab. The *Test* tab allows you to set a test mode value. Test value options are identical to the values available on the Data Defaults *Test* tab, with the addition of a Specify option (with the exception of Yes/No and Gender which do not include a Specify option). If Special Codes are not allowed on the *Response Set* tab, they will not be listed in the *Set response to:* dropdown box. When the test mode is set to an option other than Specify or a Special Code, the Specified value box will display the value to be used for testing in a disabled box:



Options for setting specific test mode responses vary by response type.

Yes/No and Gender

Response types of Yes/No and Gender dropdown choices are identical to those under Data Defaults, *Test* tab.

The image shows two dropdown menus. The first dropdown menu has 'Yes' selected and its list of options is: Yes, No, Don't Know, Refuse to Answer, and Not Applicable. The second dropdown menu has 'Male' selected and its list of options is: Male, Female, Don't Know, Refuse to Answer, and Not Applicable.

Nominal Pick One, Currency, Number, Numeric Rating Scale

Numeric related response types include the same choices as on the Data Defaults *Test* tab plus a Specify option. Special codes that are not allowed will not be listed.

The image shows a dropdown menu with 'Specify' selected. The list of options is: Specify, Minimum value, Midpoint value, Maximum value, and Specify.

When Specify is select, the *Specified value* box will be enabled.

The image shows a form with two fields. The first field is labeled 'In test mode, set response to:' and has a dropdown menu with 'Specify' selected. The second field is labeled 'Specified value:' and has a text box containing the number '201'.

If an invalid value is entered, an error message will prompt the user to enter a value in the correct range.



Enter an integer between 0 and 50.

Check All that Apply

For check all that apply responses, the *Specified values* box contains the response items as defined on the *Response Set* tab. If *Specify* is selected, the *Specified values* box is enabled and specific responses can be checked and unchecked.

The image shows a form with two fields. The first field is labeled 'In test mode, set response to:' and has a dropdown menu with 'Specify' selected. The second field is labeled 'Specified values:' and has a list box containing a list of books with checkboxes. The list is:

- A Lord of the Rings
- B Great Gatsby
- C Jane Eyre
- D Wuthering Heights
- E Hitchhikers Guide to the Galaxy
- F Other

 The list box has a scrollbar at the bottom.

If *Disallow* is selected under the *If none checked* option on the *Response Set* tab, the *None checked* option will not be listed in the dropdown options and at least one item must be checked under *Specify values*.

Date

When Specify is selected for a Date Element, fields for entering test values for year, month, and day are enabled. Only the components selected on the *Response Set* tab will be listed. For example, if the date is designated as Year and Month only, only year and month options will be available under *Specified values*. If a missing day or month is allowed for the item, the appropriate field can be left blank to test for a missing date component. As with numeric responses, the entered date must be within the range defined on the *Response Set* tab.

In test mode, set response to:	Specified values:
Specify	Year <input type="text" value="1991"/>
	Month <input type="text" value="5"/>
	Day <input type="text" value="30"/>

Time of Day

For Time of Day Elements, the *Specify* option is similar to that for Date Elements, with input fields for Hour, Minutes, and Seconds. As with dates, the fields that appear under *Specified values* is dependent on the format selected on the *Response Set* tab. If missing minutes or seconds are allowed, the corresponding field can be left blank.

In test mode, set response to:	Specified values:
Specify	Hour <input type="text" value="10"/>
	Minutes <input type="text" value="30"/>
	Seconds <input type="text" value="00"/>

Time Span

For Time Span Elements, the *Specify* option lists one to three input fields, as selected on the *Response Set* tab. If missing units are allowed, the corresponding field(s) may be left blank.

In test mode, set response to:	Specified values:
Specify	Years <input type="text" value="5"/>
	Months <input type="text" value="1"/>

Text

For Text Elements, the *Specified value* field contains the default text defined on the Data Defaults Test page. It can be replaced with other case-sensitive text. If blanks are allowed, the *Specified value* field may be left empty.

In test mode, set response to:	Specified value:
Specify	<input type="text" value="testing"/>

Pattern

For Pattern Elements, the *Specified value* field contains the numeric pattern defined on the Data Defaults Test page. The developer can enter a new value to be used for a specific item. Because the only option for Pattern Element is to enter a specific value the *Set response to* box is grayed out

In test mode, set response to: Specify

Specified value: 10001

Ranking

For Ranking Elements, the *Specified values* box lists the response items as defined on the *Response Set* tab. If the *Specify* option is selected, the user may double-click in the Rank column of a response item to enter a valid rank or a zero to leave an item unranked. The number of ranked items must be consistent with the *Maximum allowed* and *Minimum required* settings on the *Response Set* tab.

In test mode, set response to: Specify

Specified values:

Rank	Item	Description
1	A	Go to the movies
2	B	Go out to dinner
3	C	Go out to the theatre
0	D	Go to a concert
0	E	Stay in and read a book
0	F	Stay in to watch movies at h
0	G	Other

See [Test Tab](#) for more information on setting default test values and [Data Element: Test Tab Options](#) for more information on setting Data Element test values in QDS online help.

Skip-Edit Check Report

The Design Studio has been enhanced to support building a report that indicates the outcome of Skip and/or Edit Elements based on test values assigned to Data Elements in the specifications file.

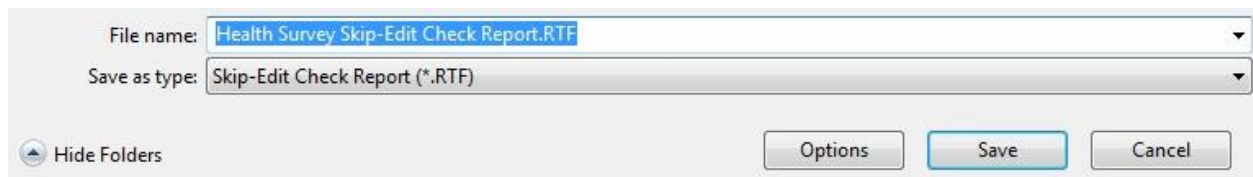
Options for the Skip-Edit Check Report can be set under **Options | Build** or by selecting the *Options* button on the Skip-Edit Check Report dialog box. Test options include selecting test interview method and interview date, choosing just a single Skip or Edit Element or a highlighted section to include in the report, including Item ID of the single Skip or Edit Element in the report file name, and choosing to ignore Skip or Edit instructions that precede test element or section.

The test values used in the report can be set globally through [Setting Global Test Values](#) or individually through [Setting Individual Data Element Test Values](#).

Building Skip-Edit Check Reports

As with other survey documentation, Skip-Edit Check Reports are created from the Build menu. To build a report:

1. Select **Build | Skip-Edit Check Report**
2. *Skip-Edit Check Report (*.RTF)* will appear in the *Save as type* box
3. Enter a File Name (default is Design Studio name + Skip-Edit Check Report.RTF)
4. Select *Options* (optional)
5. If *Options* was selected, update report settings and select *OK*
6. Select *Save*



If any test settings include an invalid value, QDS will display the following warning message: “Warning: Test response for Element <#> was either not in range or not an allowed response and was reset to <new value>”, where <new value> is the default value for that response type.

Warning: Test response for Element 48 was either not in range or not an allowed response and was reset to Minimum value.

The following details will be included for each element type:

Data Elements

- Question number
- Variable name
- Numeric code
- Text display
- Minimum value, applicable only if:
 - Test response is a special code
 - Test response contains missing components

- Maximum value, applicable only if:
 - Test response is a special code
 - Test response contains missing components
- If a Data Element contains subcomponents, these are listed immediately after the composite variable

Automatic Variables

- Variable name
- Numeric code (for text variables, this is the number of characters)
- Display value
- Special considerations:
 - If an Automatic Variable is a numeric calculation and the calculation requires a mathematical calculation to be done using a previous variable whose value is a Special Code (e.g., *Don't Know*), the numeric code for the automatic variable will be set to the *missing code* value (-1) and the display will be set to *Undefined*. The minimum and maximum values will reflect the range of possible values.
 - If an Automatic Variable is skipped due to a prior branching instruction, the numeric code will be 0, the display value will be blank and the maximum and minimum values will be displayed. The minimum and maximum values will reflect the range of possible values.

Skip Instructions

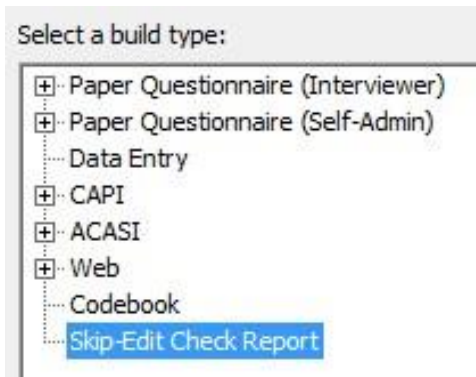
- Item identifier, e.g. Skip-1 or custom ID
- If statement
- Logical result of If statement: TRUE, FALSE, or MAYBE
- Description of action that will occur based on result, e.g., "Skip VAR5"
 - If the result is MAYBE and the "Branch on maybe" option was checked, the action will be the same as when the condition evaluates to TRUE
- If a Skip Instruction is skipped over by a prior Skip Instruction or Edit Element, the result is listed as "not processed"

Edit Elements

- Item identifier, e.g. Edit-1 or custom ID
- If statement
- Display Message, if applicable
- Logical result of If statement: TRUE, FALSE, or MAYBE
- Description of action that will occur, e.g. "Loop back to question Q10"
 - If result is MAYBE and the "Branch on maybe" option was checked, the action will be the same as when the condition evaluates to TRUE
- If an Edit Element is skipped over by a prior Skip Instruction or Edit Element, the result is listed as "not processed"

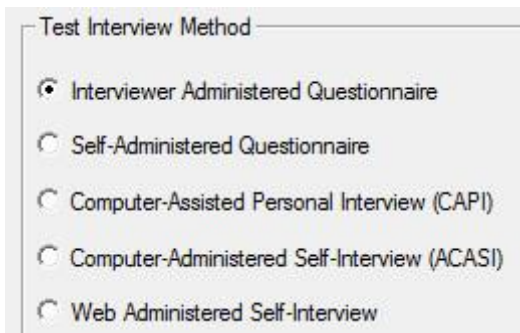
Skip-Edit Check Report Build Options

Build options for the *Skip-Edit Check Report* can be set under **Options|Build** or by selecting the *Options* button on the Skip-Edit Check Report dialog box.



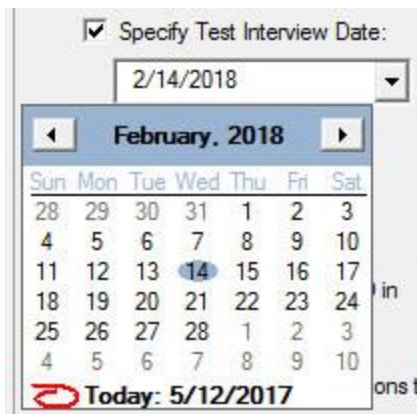
Test Interview Method

Select radio button that corresponds to interview method that will be used for survey administration; Data Elements not applicable to chosen mode will be excluded from the report.



Specify Test Interview Date

By default, report uses the current date for an Automatic Variable of type Today's date. This can optionally be changed to use any other date by checking the Specify Test Interview Date box and choosing an alternate date through the calendar interface or by typing in a valid date.

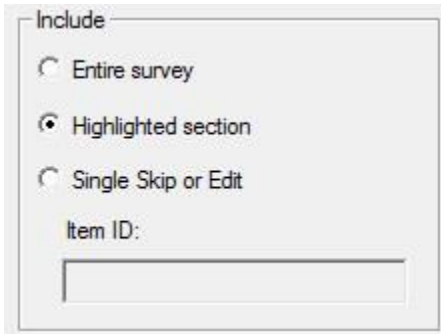


For the following cases, the test value for Date type questions is set to the date specified under this build option:

- Test setting is “earliest date allowed” and earliest date allowed is CURRENT.
- Test setting is “latest date allowed” and latest allowed date is CURRENT.

Highlighted Section

When a report is built using the highlighted section build option, it will include all Data, Automatic, Skip, and Edit Elements within the highlighted section of the Specifications File.



To build a Skip-Edit Report including only a section of your survey:

1. Select section for report by either 1) clicking on first element in section, then pressing the Shift key and click on last element in section, or 2) clicking on first or last element in section and pressing the Shift key while pressing up/down arrow keys. At least one Data, Information, Skip, or Edit Element must be included in highlighted section.
2. Go to **Build | Skip-Edit Check Report, Options**, and select Highlighted Section under *Include*.
3. Select *OK*.
4. Skip-Edit Check Report (*.RTF) will appear in the Save as type box.
5. Enter a File Name (default is Design Studio name + Skip-Edit Check Report.RTF).
6. Select Save.

If the conditional expression for a Skip or Edit inside the section references other Data and/or Automatic Variables, these will also be included in the report. In the example below, automatic variables TODAY and AGE and the Data element DOB are included in the report because AGE is referenced by the highlighted Skip element (Skip-5), and TODAY and DOB are used to calculate AGE.

Information to Respondent: The next set of questions will ask about your health.

Skip to Marker M_ENDH if AGE < 21

Data collected for In the past year, has a health care provider recommended that you receive a flu vaccine?

Identifier	Variable	Numeric	Display	Min	Max
<i>Calculated</i>	<i>TODAY</i>	42755	01/20/2017		
<i>DEM2</i>	<i>DOB</i>	33029	06/05/1990		
<i>Calculated</i>	<i>AGE</i>	26	26		
<hr/>					
<i>Skip-5</i>	if (AGE < 21)				
	Result: FALSE				
	Branch to next element				
<hr/>					
<i>HLT1</i>	<i>FLU</i>	1	Yes		

Single Skip or Edit

You can also select to include only a single Skip or Edit Element in the report.

1. Go to **Build | Skip-Edit Check Report, Options**, and select *Single Skip or Edit* under *Include*. You can also select under **Build Options, Skip-Edit Check report**.

2. Enter the Skip or Edit Element identifier in the *Item ID* box.
3. Check *Automatically include Item ID in report file name* to include Item ID in file name (optional).
4. Select *OK*.
5. Skip-Edit Check Report (*.RTF) will appear in the *Save as type* box.
6. Enter a File Name (default is Design Studio name + Skip-Edit Check Report.RTF or Design Studio name + Skip-Edit Check Report <Item ID of specified skip/edit>.RTF if option #3 is selected).
7. Select *Save*.

Note: The name entered into the *Item ID* box **must** match an existing Skip or Edit Element Item ID. For example, in the below, the Item ID is "Skip-1".

The image shows two parts of the QDS Design Studio interface. The top part is the 'Include' section, where the 'Single Skip or Edit' radio button is selected. Below it, the 'Item ID' field contains the text 'Skip-1'. The bottom part is the 'Skip Element' section, which has a tabbed interface with 'Skip Element' and 'Notes' tabs. The 'If' field contains 'CIG = 0'. The 'Branch to' dropdown menu is set to 'Skip 3 elements'. The 'Filling with' section has 'Standard Skip Code' selected. The 'Marker' field is empty. The checkbox 'Replace entered values with skip code' is checked, and the checkbox '*Branch if condition evaluates to "maybe"' is unchecked. The 'Item ID' field in the 'Skip Element' section also contains 'Skip-1'. A blue arrow points from the 'Item ID' field in the 'Include' section to the 'Item ID' field in the 'Skip Element' section.

If the Design Studio file has not been validated, *Include Single Skip or Edit* will be disabled when accessed through **Options | Build** (because Item IDs can change after validation). However, the field is always enabled from **Build | Skip-Edit Check Report, Option** button because that step includes validation.

When a single Skip or Edit Element is specified, the resulting report will only include the selected Skip or Edit and those Data Elements and Automatic Variables that impact that item (i.e., variables included in the specified condition, as well as any variables used to calculate those variables).

Automatically include Item ID

For the **Single Skip or Edit** option you can choose to *Automatically include Item ID in report file name* to facilitate file naming by including the Item ID of the targeted element.

The image shows a checkbox labeled 'Automatically include Item ID in report file name'. The checkbox is checked, and the text is in a light gray background.

When this option is checked, the report file name uses the following format:

<survey name> Skip-Edit Check Report <Item ID of specified skip/edit>.RTF

Ignore Skip and Edit Instructions that Precede Included Content

For both the **Highlighted Section** and **Single Skip or Edit** options, you can choose to ignore the results of skips and edits previous to the tested item or section. This option can be used to handle situations where test

values in the file cause a prior Skip or Edit element to branch over the entire section or item that you wish to test. To set this option, check the box:

Ignore Skip and Edit instructions that precede included content

When **unchecked**, if a Skip or Edit Element will be skipped by a prior instruction, the result for the target will be displayed in the report as *not processed*. When **checked**, the *Skip-Edit Check Report* will ignore results for any Skip or Edit Instructions that occur prior to the selected section and the result is displayed as TRUE or FALSE.

TIP: Results using this option should be interpreted with care, as it can result in impossible values being input into Skips, Edits, or Automatic Variables in the preview section.

See [Skip-Edit Check Reports](#) and [How to use Single or Highlighted Section Reports](#) for more tips in QDS online help.

Preview Mode

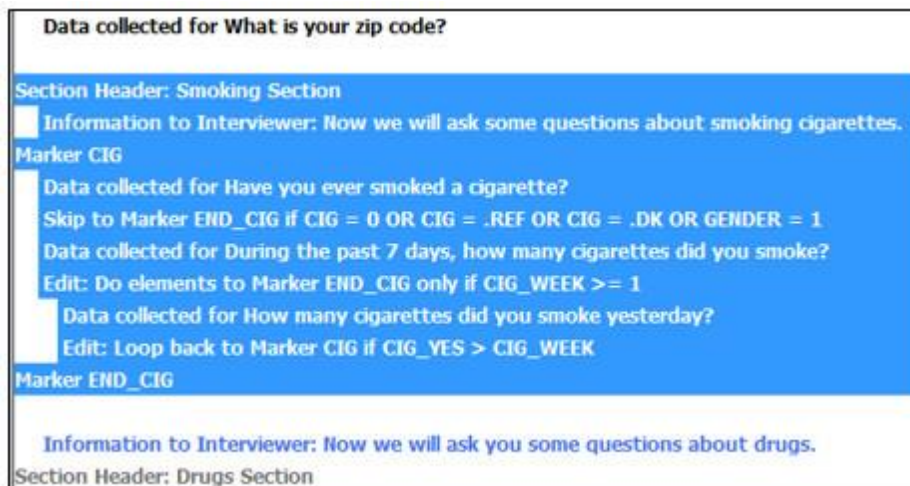
With the Design Studio Preview Tool, you can highlight and run sections of your survey in a CAPI or ACASI emulator (without the CAPI or ACASI module installed). In the emulator, you can proceed screen-by-screen until the last element in the highlighted section is reached. At any point, you can review all response data collected to that point.

Launching the Preview Tool

1. Select section to Preview by either:

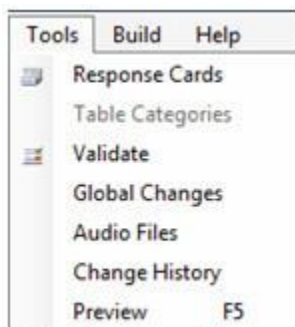
- (1) Clicking on the first element in the section with the mouse, then pressing the Shift key and click on the last element in the section.
- (2) Clicking on the first or last element in the section and pressing the Shift key while pressing the up or down arrow keys.

Once a group of elements has been selected, it will be highlighted in the Design Studio; at least one Data or Information Element must be included in the highlighted section to run the Preview Tool.



2. Select **Options | Preview** to modify options (*optional*)

3. Select **Tools | Preview** from the menu bar or the F5 key. Note: the **Tools | Preview** menu item is only enabled if the highlighted section contains at least one Data or Information Element in the list view window.



Preview Tool Emulator

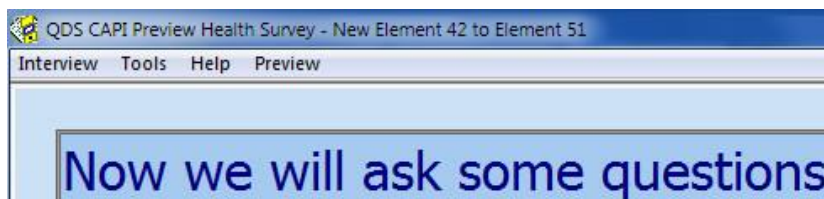
The Preview Tool emulator will launch in either CAPI or ACASI mode (as set under [Options|Preview](#)); the screens look and behave precisely as in the actual CAPI or ACASI modules, with exceptions described below and under Preview Tool Options. The first screen displayed corresponds to the first Data or Information Element highlighted in the Design Studio.

If there are Elements in a Preview section dependent on earlier responses outside of the highlighted section, the Preview Tool will utilize values specified on [Data Element, Test tabs](#) to perform calculations, assess outcomes for Skip and Edit Elements, and format text for substitution tokens in Question and Information text.

You may only run one Preview session at a time; once the Preview Tool has been started, the **Tools|Preview** menu item will be disabled.

CAPI Emulator

The CAPI emulator title bar indicates that it is a CAPI Preview window, and displays the name of the file being previewed as well as the range of elements included in the current preview.



The following CAPI menu options are disabled for the emulator mode: **Interview|New**, **Interview|Comments**, **Tools|Add Passwords**, **Tools|Remove Passwords**, and **Help|About**. The menu item **Preview|Response Values** is specific to the Preview Tool for viewing response data (see [Viewing Response Data](#)).

Once *Next Question* has been selected after the final Data or Information Element, the emulator will display a prompt asking if you wish to review responses.



If you respond *Yes*, the Response Values box will open; if you respond *No*, the preview will terminate and you will be returned to the Design Studio.

To terminate the Preview process before the end of the section, select **Interview|End** or **Interview|Exit**, or press *Alt+F4*; you will also be asked if you wish to review responses before exiting.

ACASI Emulator

The ACASI emulator is parallel to the ACASI module; there is no title bar or menu displayed during the Preview session.

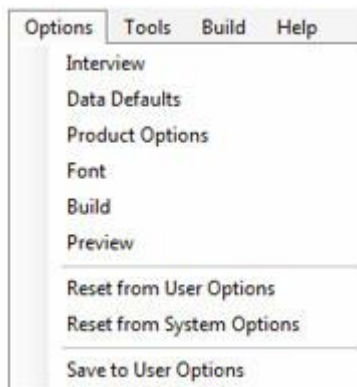
During the past 7 days, how many cigarettes did you smoke?

As with the CAPI emulator, after the final Data or Information Element, ACASI will ask if you wish to review responses before returning to the Design Studio. To terminate the Preview process before the end of the section, press *Alt+F4*.

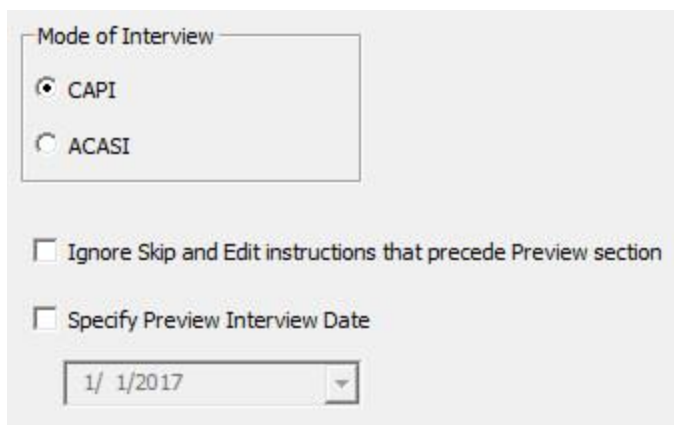
Preview Tool Options

The Preview Tool includes options for interview mode, how to handle Skip and Edit Element instructions prior to the highlighted section, and interview date.

To modify options, go to **Options | Preview** from the Design Studio menu:



By default, CAPI mode is selected and the other options are unchecked.



Mode of Interview

Select the radio button for running the Preview in either CAPI or ACASI mode.

Ignore Skip and Edit Instructions that Precede Preview section

When checked, this option instructs the Preview Tool to ignore results for any Skip or Edit Instructions that occur outside of the selection section. This option can be used to handle the case where test values in the file would cause a prior Skip to branch over the section that you wish to test.

TIP: Results using this option should be interpreted with care, as it can result in impossible values being input into Skips, Edits, or Automatic Variables in the preview section.

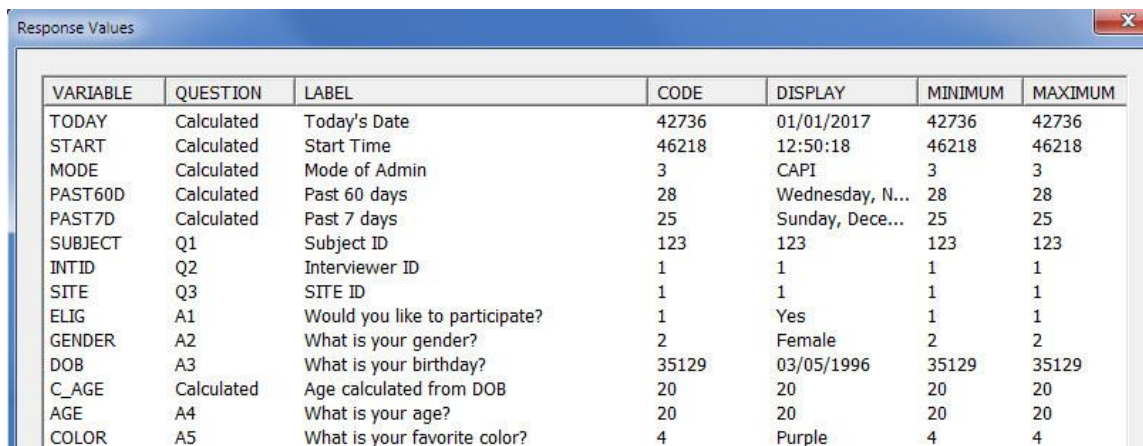
Specify Preview Interview Date

This option allows you to set the date that should be considered the current date for the Preview session. When you specify a date, any Automatic Variables of type Today's Date that precede the preview section or reside within the preview section will be set to the specified date. Additionally, any date type questions where earliest allowed date is defined as CURRENT or latest allowed date is defined as CURRENT will use the option date set as the beginning or end of the range of valid responses.

Viewing Response Data in Preview Tool

At any point while running in either CAPI or ACASI Preview mode, you may view all current data by selecting **Preview | Response Values** (CAPI only) or pressing Ctrl+R (CAPI or ACASI). This will open the Response Values box displaying all Data Elements and Automatic Variables, starting with the first Data Element in the survey (i.e., not limited to current selection) through the most recent response collected in the active Preview session. Variables preceding the highlighted section of the survey contain the test value assigned in the Design Studio on the Data Element [Test tab](#). The Response Values listing includes columns for:

- Variable name
- Question number
- Variable label
- Numeric code
- Display value
- Minimum value for range of response
- Maximum value for range of response



VARIABLE	QUESTION	LABEL	CODE	DISPLAY	MINIMUM	MAXIMUM
TODAY	Calculated	Today's Date	42736	01/01/2017	42736	42736
START	Calculated	Start Time	46218	12:50:18	46218	46218
MODE	Calculated	Mode of Admin	3	CAPI	3	3
PAST60D	Calculated	Past 60 days	28	Wednesday, N...	28	28
PAST7D	Calculated	Past 7 days	25	Sunday, Dece...	25	25
SUBJECT	Q1	Subject ID	123	123	123	123
INTID	Q2	Interviewer ID	1	1	1	1
SITE	Q3	SITE ID	1	1	1	1
ELIG	A1	Would you like to participate?	1	Yes	1	1
GENDER	A2	What is your gender?	2	Female	2	2
DOB	A3	What is your birthday?	35129	03/05/1996	35129	35129
C_AGE	Calculated	Age calculated from DOB	20	20	20	20
AGE	A4	What is your age?	20	20	20	20
COLOR	A5	What is your favorite color?	4	Purple	4	4

By default, variables are displayed in the same order as that used when viewing variables in the Warehouse Manager (i.e., any subcomponent variables are at the end of the listing, such as DOBY, DOBM, and DOBD in the above image). When the Response Values box first opens, the variable associated with the last question answered is highlighted.

TIP: For Automatic Variables that are skipped or not yet encountered, the variable, question, and label information is displayed; however, all other columns are blank.

Display order can be sorted by clicking on any column header. Sorting by Variable, Question, Label, and Display columns sorts alphabetically; sorting by Code, Minimum, and Maximum columns sorts numerically. The first time clicking on a column header, rows are sorted in ascending order; clicking on a column a second time results in the rows being sorted in descending order.

Clicking *OK* will return you to Preview mode if the end of the section has not yet been reached; it will return you to the Design Studio file if the response data were opened at the end of the highlighted section.

Response data is continually updated during the Preview session; if you use the *Previous Question* button to go back and change responses, the next time Response Values are opened, they will be updated to reflect updated data values.

See [Preview Tool](#) for more information in QDS online help.

CAPI and ACASI Build Options Features

The following features are new to v4.0 CAPI and ACASI Build Options.

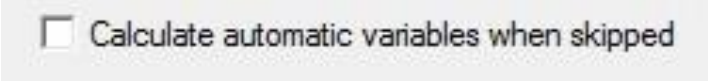
Calculate Automatic Variables When Skipped

In previous versions of QDS (and still by default), when Automatic Variables are skipped over via a branching instruction, Skip Element, or Edit Element, the value is not calculated and is set to empty (NULL). There is a new CAPI/ACASI build option to **Calculate automatic variables when skipped**. This addresses an issue that can occur when an interviewer or respondent goes backwards in a survey (via *Previous Question* button) and changes one or more responses used to calculate subsequent Automatic Variables. With the default setting and all older QDS versions, an Automatic Variable that had originally been calculated, but is now skipped over would always retain the original value.

When the **Calculate automatic variables when skipped** option is enabled, values will be calculated rather than set to empty (NULL) when they are skipped over. In the case where the respondent goes backwards in a survey and forward again, values are recalculated so that an Automatic Variable that had originally been calculated, but is now skipped over will have its value recalculated.

Build Option Setting

To select this option, go to **Options | Build CAPI or ACASI, Operations tab** and check the *Calculate automatic variables when skipped* checkbox:



Calculate automatic variables when skipped

See [Calculating Skipped Automatic Variables](#) in QDS online help for further explanation and examples.

Modify Order of Date Components on CAPI/ACASI Screen

On ACASI and CAPI screens, you can now choose the display order for date components under Build Options. The default format is Year-Month-Day; additional options are Month-Day-Year or Day-Month-Year. Included components are specified on the *Response Set* tab for dates; for example, if only Year and Month or Year are selected, only those input boxes are displayed in the selected order.

To change the default setting, go to **Options|Build, CAPI or ACASI, Date and Time**; select the radio button for the order of display you would like:



Dates: Order of Components

- Year-Month-Day
- Month-Day-Year
- Day-Month-Year

See [Date and Time Options](#) in QDS online help for more information.

Save each CAPI or ACASI Interview in Separate Data File

QDS now supports saving CAPI and ACASI data files in one of two ways:

- 1) Non-unique data files, where all new interviews are appended to the end of the current data file if one exists (*default setting*)
- 2) Unique data file for each interview: Each CAPI or ACASI interview is saved in a separate .QAD file.

For both methods (as in previous versions of QDS), data, report, and log files are always saved into the same folder where the control file resides.

To choose the option to save each Interview in separate data file, go to **Options | Build CAPI or ACASI, Operations** tab and check "Generate unique data file for each interview" option box.



Generate unique data file for each interview

With this option selected, each interview is saved into its own file with the format <control-file-name><identifier variables><date><time>.QAD. For example:

An interview for ID number 36 conducted on May 26, 2017 at 17:43:53 will be saved as "C:\My Documents\UserName\Research Folder\Questionnaire En 36 5_26_2017 17_43_53.QAD".

The next interview for ID number 37 conducted on May 26, 2017 at 18:01:30 will be saved as "C:\My Documents\UserName\Research Folder\Questionnaire En 37 5_26_2017 18_01_30.QAD".

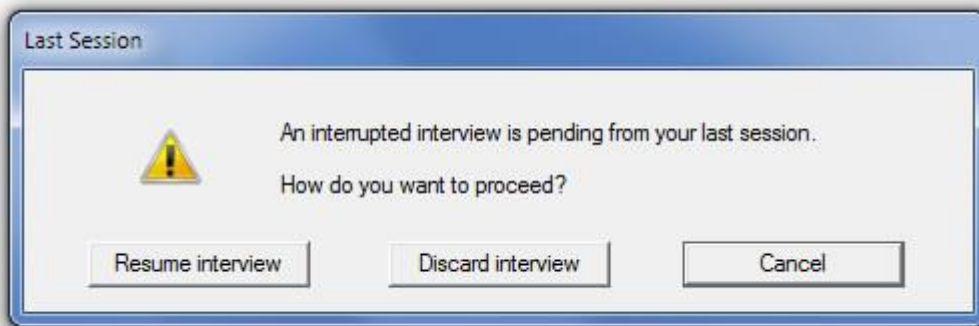
See [CAPI Data Files](#) or [ACASI Data Files](#) in QDS online help for more information.

CAPI and ACASI Interview Feature

The following feature is new to v4.0 CAPI and ACASI interviewing.

Enhanced Notification and Recovery Options

If you attempt to begin a new interview following an interview that was terminated improperly, CAPI and ACASI will now display a message with three choices 1) *Resume Interview* (continues the interrupted interview to repair the data file), 2) *Discard Interview* (asks for confirmation and then deletes the previous incomplete interview if you confirm), 3) *Cancel* (exits CAPI or ACASI without making a change to the data file). You should always attempt to resume the interview.



After selecting *Resume interview*, complete the following steps:

- 1) Complete the interview or follow proper steps to terminate the interview and close CAPI/ACASI.
- 2) Open the .QAD file in the Warehouse Manager. If the data file was properly saved, you should be able to open it in the Warehouse Manager without error.

Causes of Corrupted CAPI or ACASI Data Files

If the CAPI/ACASI program is not properly shut down, the interview data file can become corrupted. To prevent improper shutdown:

- Do not close CAPI/ACASI using Ctrl+Alt+Del key combination or the Windows Task Manager.
- Always make certain to keep laptop, tablet or other interview device sufficiently charged during interviews.
- Do not leave laptop, tablet or other interview device unattended for long periods of time during an interview, as it could enter "sleep" mode resulting in an improper termination.
- Do not keep CAPI/ACASI Control Files (*.QPI/*.QSI) on a shared, network, external, or cloud drive; if the connection is interrupted during an interview this can result in an improper termination.


See [Data File Recovery](#) in QDS online help for more information.

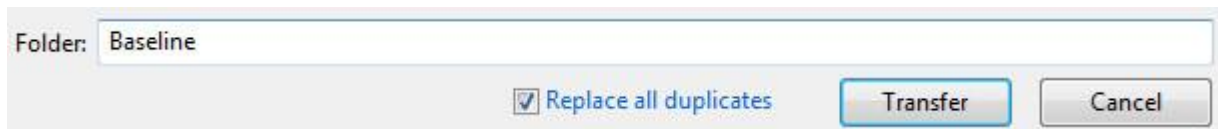
Warehouse Manager Feature

The following feature is new to v4.0 Warehouse Manager.

Transfer all Data files in a single folder to a Local Warehouse File

In the Warehouse Manager, you can now add all QDS data files (*.QAD, *.QPD, and *.QED) that reside in a single folder to your Local Warehouse simultaneously. This feature only adds data from the selected folder, not any sub-folders.

- 1) Go to **File | Transfer Multiple Data Files, Select Folder**, use the shortcut Ctrl-R, or the  menu icon.
- 2) Select the folder that contains the QDS data files you would like to add.



- 3) Check the "Replace all duplicates" option box if you would like QDS to replace duplicate interviews without prompting.
- 4) Select the *Transfer* button. QDS will add all QDS data files (*.QAD, *.QPD, and *.QED) that reside in that folder to the Local Warehouse file. The status of each copied interview is automatically changed to "Transferred" within the source data file.
- 5) QDS will display a message regarding the number of interviews transferred. An unlimited number of files can be added at one time.

See [Adding Multiple Local Data Files](#) in QDS online help for more information.