UnderStandingAmericaStudy

Survey author(s): Marco Angrisani

Contents

1 INTRODUCTION

This UAS panel survey, titled "UAS478: Brain Games Project Consent" asks respondents about their interest in an Online Memory Training Study that involves playing brain games through a smartphone/tablet app. This survey is no longer in the field. Respondents were paid $5 to complete the survey.

Related surveys include UAS 478 (Consent survey 1), UAS 482 (Baseline survey), UAS 549 (Check in survey 1), UAS 550 (Check in survey 2) and UAS 494 (Post-study survey).

1.1 Topics

This survey contains questions (among others) on the following topics: Cognitive Abilities. A complete survey topic categorization for the UAS can be found here.

1.2 Experiments

This survey did not include any experiments. A complete survey experiment categorization for the UAS can be found here.

1.3 Citation

Each publication, press release or other document that cites results from this survey must include an acknowledgment of UAS as the data source and a disclaimer such as, 'The project described in this paper relies on data from survey(s) administered by the Understanding America Study, which is maintained by the Center for Economic and Social Research (CESR) at the University of Southern California. The content of this paper is solely the responsibility of the authors and does not necessarily represent the official views of USC or UAS.' For any questions or more information about the UAS, contact Tania Gutsche, Project and Panel Manager, Center for Economic and Social Research, University of Southern California, at tgutsche@usc.edu.

2 SURVEY RESPONSE AND DATA

2.1 Sample selection and response rate

The sample selection for this survey was:

Custom selection of active English speaking respondents.

As such, this survey was made available to 2600 UAS participants. Of those 2600 participants, 2047 completed the survey and are counted as respondents. Of those who are not counted as respondents, 37 started the survey without completing and 516 did not start the survey. The overall response rate was 78.73%.
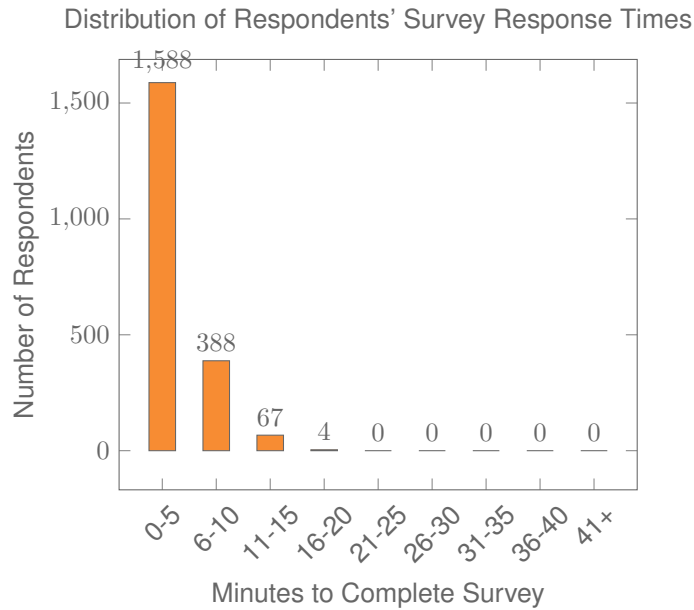
Note: We are unable to provide sample weights for a small number of UAS members (see the Sample weighting section below for details). If they completed the survey, these members are included in the data set with a weight of zero, but accounted for in the computation of total sample size and survey response rate.%.

The detailed survey response rate is as follows:

UAS478 - Response Overview	
Size of selected sample	2600
Completed the survey	2047
Started but did not complete the survey	37
Did not start the survey	516
Response rate	78.73%

2.2 Timings

The survey took respondents an average of 4 minutes, and the full distribution of survey response times is available in the figure below. Times per question are available upon request.

Distribution of Respondents' Survey Response Times

2.3 Sample & Weighting

Sample weights for this survey are computed following the general UAS Weighting Procedure. Specifically, we use a two-step process where we first compute base weights, which correct for unequal probabilities of sampling UAS members, and then generate final, post-stratification weights, which align the sample to the reference population along certain socio-economic dimensions. These are gender (male/female), race and ethnicity (White/Black/Other/Hispanic/Native American), age (18-39/40-49/50/59/60+), education (High school or less/Some college/Bachelor or more), Census regions (Northeast/Midwest//West, excl. CA/CA, excl. LAC, LAC). Benchmark distributions for these variables are derived from the 6 most recent available Current Population Survey (CPS) Basic Monthly Survey with respect to the survey's completion date. The reference population considered for the weights is the U.S. population of adults age 18 and older.

This survey dataset may contain respondents with a weight of zero. These respondents belong to a small group of UAS members for whom sample weights cannot be computed due to non-probability recruitment for special projects. Hence, while they are accounted for in the total number of survey respondents, they do not contribute to any statistics using sample weights. More information is available from the UAS Weighting Procedure. Please contact UAS staff with any questions.

3 STANDARD VARIABLES

Each Understanding America Study data contains a series of standard variables, consisting of individual, household and sample identifiers, language indicator, time stamps and a rating by the respondent of how much he or she liked the survey:

- **uasid**: the identifier of the respondent. This identifier is assigned to a respondent at recruitment and stays with the respondent throughout each and every survey he/she participates in. When analyzing data from multiple surveys, the 'uasid' can be used to merge data sets.

- **uashhid**: the household identifier of the respondent. Every member is assigned a household identifier, stored in the variable 'uashhid'. For the primary respondent this identifier equals his or her 'uasid'. All other eligible members of the primary respondent's household (everyone who is 18 or older in the household) who become UAS respondents receive the 'uasid' of the primary respondent as their household identifier. The identifier 'uashhid' remains constant over time for all respondents. Thus it is always possible to find the original UAS household of an UAS panel member (even after they, for example, have moved out to form another household).

- **survhhid**: uniquely identifies the household a UAS panel member belongs to in a given survey. For instance, if the primary respondent and his/her spouse are both UAS members at the time of a given survey, they both receive the same 'survhhid' identifier for that survey. If they subsequently split, they receive two different 'survhhid' in subsequent surveys. They, however, always share the same 'uashhid'. The identifier 'survhhid' is set to missing (.) if no other household members are UAS panel members at the time of the survey. Since individuals can answer the same survey at different points in time (which can be relatively far apart if the survey is kept in the field for a prolonged time), it may be possible that, within the same data set, household members have different 'survhhid' reflecting different household compositions at the time they answered the survey. For instance, suppose that the primary respondent and his/her spouse are both UAS members. If the primary respondent answers the survey when he/she is living with the spouse, but the spouse answers the survey when the couple has split, they receive different 'survhhid'. Hence, the variable 'survhhid' identifies household membership of UAS panel members, at the time the respondent answers the survey. Note: in the My Household survey 'survhhid' is set to unknown (.u) for respondents who last participated in the My Household survey prior to January 21, 2015.

- **uasmembers**: is the number of other household members who are also UAS panel members at the time of the survey. Since individuals can answer the same survey at different points in time (which can be relatively far apart is the survey is kept in the field for a prolonged time), it may be possible that, within the same data set, the primary respondent of a household has a value of '0', whereas the second UAS household respondent has a value of '1'. Therefore 'uasmembers' should be interpreted as the

number of household and UAS panel members at the time the respondent answers the survey. Note: in the My Household survey 'uasmembers' is set to unknown (.u) for respondents who last participated in the My Household survey prior to January 21, 2015.

○ **sampleframe**: indicates the sampling frame from which the household of the respondent was recruited. All UAS recruitment is done through address based sampling (ABS) in which samples are acquired based on postal records. Currently, the variable 'sampleframe' takes on four values reflecting four distinct sample frames used by the UAS over the year (in future data sets the number of sample frames used for recruitment may increase if additional specific populations are targeted in future recruitment batches):

1. U.S. National Territory: recruited through ABS within the entire U.S.
2. Areas high concentration Nat Ame: recruited through ABS in areas with a high concentration of Native Americans in the zip-code. Within these batches, individuals who are not Native Americans are not invited to join the UAS.
3. Los Angeles County: recruited through ABS within Los Angeles County.
4. California: recruited through ABS within California.

Note: prior to March 6, 2024 this variable was called sampletype and had the following value labels for the above list in UAS data sets:

1. Nationally Representative Sample: recruited through ABS within the entire U.S.
2. Native Americans: recruited through ABS in areas with a high concentration of Native Americans. Within these batches, individuals who are not Native Americans are not invited to join the UAS.
3. LA County: recruited through ABS within Los Angeles County.
4. California: recruited through ABS within California.

○ **batch**: indicates the batch from which the respondent was recruited. Currently, this variable takes the following values (in future data sets the number of batches may increase as new recruitment batches are added to the UAS):

1. ASDE 2014/01
2. ASDE 2014/01
3. ASDE 2014/01
4. Public records 2015/05
5. MSG 2015/07
6. MSG 2016/01
7. MSG 2016/01
8. MSG 2016/01
9. MSG 2016/02

10. MSG 2016/03
11. MSG 2016/04
12. MSG 2016/05
13. MSG 2016/08
14. MSG 2017/03
15. MSG 2017/11
16. MSG 2018/02
17. MSG 2018/08
18. MSG 2019/04
19. MSG 2019/05
20. MSG 2019/11
21. MSG 2020/08
22. MSG 2020/10
23. MSG 2021/02
24. MSG 2021/08
25. MSG 2021/08
26. MSG 2022/02
27. MSG 2022/02
28. MSG 2022/08
29. MSG 2022/11
30. MSG 2022/11
31. MSG 2023/01
32. MSG 2023/06
33. MSG 2023/09
34. MSG 2023/10

Note: prior to March 6, 2024 this variable had the following value labels for the above list in UAS data sets:

1. ASDE 2014/01 Nat.Rep.
2. ASDE 2014/01 Native Am.
3. ASDE 2014/11 Native Am.
4. LA County 2015/05 List Sample
5. MSG 2015/07 Nat.Rep.
6. MSG 2016/01 Nat.Rep. Batch 2
7. MSG 2016/01 Nat.Rep. Batch 3

8. MSG 2016/01 Nat.Rep. Batch 4
9. MSG 2016/02 Nat.Rep. Batch 5
10. MSG 2016/03 Nat.Rep. Batch 6
11. MSG 2016/04 Nat.Rep. Batch 7
12. MSG 2016/05 Nat.Rep. Batch 8
13. MSG 2016/08 LA County Batch 2
14. MSG 2017/03 LA County Batch 3
15. MSG 2017/11 California Batch 1
16. MSG 2018/02 California Batch 2
17. MSG 2018/08 Nat.Rep. Batch 9
18. MSG 2019/04 LA County Batch 4
19. MSG 2019/05 LA County Batch 5
20. MSG 2019/11 Nat. Rep. Batch 10
21. MSG 2020/08 Nat. Rep. Batch 11
22. MSG 2020/10 Nat. Rep. Batch 12
23. MSG 2021/02 Nat. Rep. Batch 13
24. MSG 2021/08 Nat. Rep. Batch 15
25. MSG 2021/08 Nat. Rep. Batch 16
26. MSG 2022/02 Nat. Rep. Batch 17 (priority)
27. MSG 2022/02 Nat. Rep. Batch 17 (regular)
28. MSG 2022/08 Nat. Rep. Batch 18
29. MSG 2022/11 LA County Batch 6
30. MSG 2022/11 Nat. Rep. Batch 20
31. MSG 2023/01 Nat. Rep. Batch 21
32. MSG 2023/06 Nat. Rep. Batch 22
33. MSG 2023-09 Native Am. Batch 3
34. MSG 2023-10 Nat. Rep. Batch 23

○ **primary_respondent**: indicates if the respondent was the first person within the household (i.e. to become a member or whether s/he was added as a subsequent member. A household in this regard is broadly defined as anyone living together with the primary respondent. That is, a household comprises individuals who live together, e.g. as part of a family relationship (like a spouse/child/parent) or in context of some other relationship (like a roommate or tenant).

○ **hardware**: indicates whether the respondent ever received hardware or not. Note: this variable should not be used to determine whether a respondent received hardware at a given point in time and/or whether s/he used the hardware to participate in a survey. Rather, it indicates whether hardware was ever provided:

1. None
2. Tablet (includes Internet)

○ **language**: the language in which the survey was conducted. This variable takes a value of 1 for English and a value of 2 for Spanish.

○ **start_date (start_year, start_month, start_day, start_hour, start_min, start_sec)**: indicates the time at which the respondent started the survey.

○ **end_date (end_year, end_month, end_day, end_hour, end_min, end_sec)**: indicates the time at which the respondent completed the survey.

○ **cs_001**: indicates how interesting the respondent found the survey.

4 BACKGROUND DEMOGRAPHICS

Every UAS survey data set includes demographic variables, which provide background information about the respondent and his/her household. Demographic information such as age, ethnicity, education, marital status, work status, state of residence, family structure is elicited every quarter through the "My Household" survey. The demographic variables provided with each survey are taken from the most recent 'MyHousehold' survey answered by the respondent. If at the time of a survey, the information in "My Household" is more than three months old, a respondent is required to check and update his or her information before being able to take the survey.

The following variables are available in each survey data set:

- **gender**: the gender of the respondent.

- **dateofbirth_year**: the year of birth of the respondent.

- **age**: the age of the respondent at the start of the survey.

- **agerange**: if the respondent's age cannot be calculate due to missing information, 'agerange' indicates the approximate age. Should a value for both the 'age' and 'agerange' be present, then 'age' takes precedence over 'agerange'.

- **citizenus**: indicates whether the respondent is a U.S. citizen.

- **bornus**: indicates whether the respondent was born in the U.S.

- **stateborn**: indicates the state in which the respondent was born. This is set to missing (.) if the respondent was not born in the U.S.

- **countryborn**: indicates the country in which the respondent was born. This is set to missing (.) if the respondent was born in the U.S.

- **countryborn_other**: indicates the country of birth if that country is not on the drop down list of countries shown to the respondent'.

- **statereside**: the state in which the respondent is living.

- **immigration_status**: indicates whether the respondent is an immigrant. It takes one of the following values: 0 Non-immigrant, 1 First generation immigrant (immigrant who migrated to the U.S), 2 Second generation immigrant (U.S.-born children of at least one foreign-born parent), 3 Third generation immigrant (U.S.-born children of at least one U.S.-born parent, where at least one grandparent is foreign-born), or 4 Unknown immigrant status.

- **maritalstatus**: the marital status of the respondent.

- **livewithpartner**: indicates whether the respondent lives with a partner.

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- **education**: the highest level of education attained by the respondent.

- **hisplatino**: indicates whether the respondent identifies him or herself as being Hispanic or Latino. This variable is asked separately from race.

- **hisplatinogroup**: indicates which Hispanic or Latino group a respondent identifies him or herself with. This is set to missing (.) if the respondent does not identify him or herself as being Hispanic or Latino.

- **white**: indicates whether the respondent identifies him or herself as white (Caucasian).

- **black**: indicates whether the respondent identifies him or herself as black (African-American).

- **nativeamer**: indicates whether the respondent identifies him or herself as Native American (American Indian or Alaska Native).

- **asian**: indicates whether the respondent identifies him or herself as Asian (Asian-American).

- **pacific**: indicates whether the respondent identifies him or herself as Native Hawaiian or Other Pacific Islander.

- **race**: indicates the race of the respondent as singular (e.g., '1 White' or '2 Black') or as mixed (in case the respondent identifies with two or more races). The value '6 Mixed' that the respondent answered 'Yes' to at least two of the single race categories. This variable is generated based on the values of the different race variables (white, black, nativeamer, asian, pacific). This composite measure is not conditional on hisplatino, so an individual may identify as Hispanic or Latino, and also as a member of one or more racial groups.

- **working**: indicates whether the respondent is working for pay.

- **sick_leave**: indicates whether the respondent is not working because sick or on leave.

- **unemp_layoff**: indicates whether the respondent is unemployed or on lay off.

- **unemp_look**: indicates whether the respondent is unemployed and looking for a job.

- **retired**: indicates whether the respondent is retired.

- **disabled**: indicates whether the respondent has a disability.

- **lf_other**: specifies other labor force status.

- **laborstatus**: indicates the labor force status of the respondent as singular (e.g., '1 Working for pay' or '2 On sick or other leave') or as mixed (in case the respondent selects two or more labor statuses). The value '8 Mixed' indicates that the respondent answered 'Yes' to at least two of the single labor force status variables. This variable is generated based on the values of the different labor status variables (working, sick_leave, unempl_layoff, unempl_look, retired, disabled, lf_other).

- **employmenttype**: indicates the employment type of the respondent (employed by the government, by a private company, a nonprofit organization, or self-employed). This is set to missing (.) if the respondent is not currently working or currently on sick or other leave.

- **workfullpart**: indicates whether the respondent works full or part-time. This is set to missing (.) if the respondent is not currently working or currently on sick or other leave.

- **hourswork**: indicates the number of hours the respondent works per week. This is set to missing (.) if the respondent is not currently working or currently on sick or other leave.

- **hhincome**: is the total combined income of all members of the respondent's household (living in their household) during the past 12 months.

- **anyhhmember**: indicates whether there were any members in the respondent's household at the time he/she answered the survey as reported by the respondent.

- **hhmembernumber**: indicates the number of household members in the respondent's household at the time of the survey as reported by the respondent. It may be that 'anyhhmember' is 'Yes', but 'hhmembernumber' is missing if the respondent did not provide the number of household members at the time of the survey.

- **hhmemberin_#**: indicates whether a household member is currently in the household as reported by the respondent. Household members are never removed from the stored household roster and their information is always included in survey data sets. The order of the roster is the same order in which household members were specified by the respondent in the 'MyHousehold' survey. The order is identified by the suffix _# (e.g., _1 indicates the first household member, _2 the second household member, etc.).

  As an example, if the first household member is in the household at the time of the survey, 'hhmemberin_1' is set to '1 HH Member 1 is in the HH'; if he/she has moved out, 'hhmemberin_1' is set to '0 HH member 1 is no longer in the HH'. Since information of other household members (stored in the variables listed below) is always included in survey data sets, information about 'hhmemberin_1' is available whether this person is still in the household or has moved out.

- **hhmembergen_#**: indicates the gender of another household member as reported by the respondent.

- **hhmemberage_#**: indicates the age of another household member. The age is derived from the month and year of birth of the household member as reported by the respondent.

- **hhmemberrel_#**: indicates the relationship of the respondent to the other household member as reported by the respondent.

○ **hhmemberuasid_#**: is the 'uasid' of the other household member if this person is also a UAS panel member. It is set to missing (.) if this person is not a UAS panel member at the time of the survey. Since this identifier is directly reported by the respondent (chosen from a preloaded list), it may differ from the actual (correct) 'uasid' of the UAS member it refers to because of reporting error. Also, this variable should not be used to identify UAS members in a given household at the time of the survey. This is because the variables 'hhmemberuasid_#' are taken from the most recent 'My Household' and changes in household composition involving UAS members may have occurred between the time of the respondent answered 'My Household' and the time the respondent answers the survey. To follow UAS members of a given household, it is advised to use the identifiers 'uashhid' and 'survhhid'.

○ **lastmyhh_date**: the date on which the demographics variables were collected through the 'My Household' survey.

5 MISSING DATA CONVENTIONS

Data files provide so-called clean data, that is, answers given to questions that are not applicable anymore at survey completion (for example because a respondent went back in the survey and skipped over a previously answered question) are treated as if the questions were never asked. In the data files all questions that were asked, but not answered by the respondent are marked with (.e). All questions never seen by the respondent (or any dirty data) are marked with (.a). The latter may mean that a respondent did not view the question because s/he skipped over it; or alternatively that s/he never reached that question due to a break off. If a respondent did not complete a survey, the variables representing survey end date and time are marked with (.c). Household member variables are marked with (.m) if the respondent has less household members (e.g. if the number of household members is 2, any variables for household member 3 and up are marked with (.m).

UAS provides data in STATA and CSV format. Stata data sets come with include variable labels that are not available in the CSV files. Value labels are provided for single-response answer option. In STATA these labels will include the labels 'Not asked' and 'Not answered' for (.a) and (.e), and will show in tabulations such as 'tab q1, missing'. For multiple-response questions a binary variable is created for each answer option indicating whether the option was selected or not. A summary variable is also provided in string format reflecting which options were selected and in which order. For example, if a question asked about favorite animals with options cat, dog, and horse, then if a respondent selected horse and then cat, the binary variables for horse and cat will be set to yes, while the overall variable would have a string value of '3-1'. If no answer was given, all binary variables and the summary variable will be marked with '.e'.

Questions that are asked multiple times are often implemented as so-called array questions. Supposing the name of such question was Q1 and it was asked in 6 different instances, your data set would contain the variables Q1_1_ to Q1_6_. To illustrate, if a survey asked the names of all children, then child_1_ would contain the name of the first child the respondent named and so on.

More information about the UAS data in general can be found on the UAS Data Pages web site.

6 ROUTING SYNTAX

The survey with routing presented in the next section includes all of the questions that make up this survey, the question answers when choices were provided, and the question routing. The routing includes descriptions of when questions are grouped, conditional logic that determines when questions are presented to the respondent, randomization of questions and answers, and fills of answers from one question to another.

If you are unfamiliar with conditional logic statements, they are typically formatted so that *if* the respondent fulfills some condition (e.g. they have a cellphone or a checking account), *then* they are presented with some other question or the value of some variable is changed. If the respondent does not fulfill the condition (e.g. they are not a cellphone adopter or they do not have a checking account), something *else* happens such as skipping the next question or changing the variable to some other value. Some of the logic involved in the randomization of questions or answers being presented to the respondent is quite complex, and in these instances there is documentation to clarify the process being represented by the routing.

Because logic syntax standards vary, here is a brief introduction to our syntax standards. The syntax used in the conditional statements is as follows: '=' is equal to, '<' is less than, '>' is greater than, and '!=' is used for does not equal. When a variable is set to some number N, the statement looks like 'variable := N'.

The formatting of the questions and routing are designed to make it easier to interpret what is occurring at any given point in the survey. Question ID is the bold text at the top of a question block, followed by the question text and the answer selections. When a question or variable has associated data, the name links to the appropriate data page, so you can easily get directly to the data. Text color is used to indicate the routing: red is conditional logic, gold is question grouping, green is looping, and orange is used to document randomization and other complex conditional logic processes. The routing is written for a computer to parse rather than a human to read, so when the routing diverges significantly from what is displayed to the respondent, a screenshot of what the respondent saw is included.

The name of the randomization variables are defined in proximity to where they are put into play, and like the question ID the names of the randomization variables can be used to link directly to the associated data page.

7 SURVEY WITH ROUTING

sc_intro (Section Screener)
We are launching a UAS research project about understanding and training human cognition. This study is conducted by Dr. Marco Angrisani at USC, in collaboration with the Online Memory Training Study team led by Professor Aaron Seitz at the University of California, Riverside. In this survey, we will describe what is involved in joining the project, how much you would earn if you decide to join the project, and then ask if you would be interested in participating. You will earn $4 for reading about the project and deciding whether or not to participate.

sc001 (have android or apple iphone in section Screener)
You may have been asked about this in other surveys, but just to double check, do you have an Android or Apple iPhone or any other kind of smartphone? By smartphone we mean a phone that you can use for accessing the internet, sending email, etc. Please select all that apply.
1 I have an Android Phone (e.g. Samsung Galaxy, Google Pixel, Motorola Droid, etc.)
2 I have an Apple iPhone
3 I have a Jitterbug, or Greatcall phone
4 I have a Windows or Blackberry or some other kind of smart phone
5 No, I have a cell phone that just makes calls and/or texts
6 No, I only use a landline (or cable) phone
7 I do not have a phone

sc002 (have computer tablet in section Screener)
Do you have a computer tablet? Please select all that apply.
1 I have an iPad or iPad mini
2 I have a Microsoft Surface
3 I have an Amazon Fire
4 I have other tablets (Samsung Galaxy Tab, Lenovo Tab, Asus ZenPad, etc.)
5 No, I do not have a tablet

IF 1 IN sc001 OR 2 IN sc001 OR 1 IN sc002 OR 2 IN sc002 OR 3 IN sc002 OR 4 IN sc002 THEN

ELSE
  dummy := updateStatus(5)

  earlyexit (Section Screener)
  Thank you for answering. Participation in this project requires a smartphone or a non-UAS tablet. Please just let us know if you ever get one of those and would like to

| find out more about this project!
END OF IF

End of section **Screener**

Start of section **Consent**

/* Respondents are randomly assigned to one of two incentive groups per variable randomizer_incentive with values:

 ○ 1 $1 per brain game session, $8 for completing 22 sessions within 3 weeks.

 ○ 2 $3 per brain game session, $4 for completing 22 sessions within 3 weeks.

*/

IF randomizer_incentive = EMPTY THEN
  randomizer_incentive := getIncentive()

  IF randomizer_incentive = EMPTY THEN
    randomizer_incentive := mt_rand(1,2)
    randomizer_incentive_flag := 2

  ELSE
    randomizer_incentive_flag := 1
  END OF IF
END OF IF

Fill code of question FLScreen1 executed

screen1 (Section Consent)
Potential Participant Project Information

The purpose of this study is to learn how effective brain teaser games (played on a smartphone or tablet) are in improving memory, attention, and other abilities.

If you decide to join this study, you will be asked to play brain teaser games on your smartphone or tablet, using an app available from the Apple App Store and the Google Play Store. The name of the app is *Recollect the Study*. It is a cognition training game app developed by the University of California Riverside Brain Game Center for Mental Fitness and Well-being. It has been designed to be used by anyone of any age who is interested in fun brain training.

Through the *Recollect the Study* app, you will play brain teaser games intended to challenge and improve perceptions, memory, attention and decision making abilities. We are

studying how effective these games are.

As part of this study, you will also complete two UAS surveys, one at the beginning of the study of about 8 minutes and one at the end of about 4 minutes. The two surveys will ask about your general health and lifestyle.

If you join the study, you will be asked to complete a total of **22** brain game sessions. Each session takes between 20 and 30 minutes. We recommend that you complete **2 sessions per day and at least 10 sessions per week**, but you can complete sessions at your own pace. Each session includes a brief training, the brain games, and then a handful of questions (about sleep and motivation for cognitive training) that you will answer through the app.

(You can earn up to a total of $38 for your participation in this study!/You can earn up to a total of $78 for your participation in this study!)

screen2 (Section Consent)
How will my identity and data be protected?

If you decide to participate in this study, you will receive a study-specific ID that is different from your unique UAS ID to further protect your privacy. Your performance on the brain games that you will play through the *Recollect the Study* app and your answers to the short app survey will be recorded in a data file that is associated with this study-specific ID. This data file **will not include** your unique UAS ID or any other identifiers.

The *Recollect the Study* app was developed for research purposes and it **does not access or collect** any information stored on your smartphone or tablet, like photos, contacts, passwords, GPS, location data, etc.

The de-identified data file with your brain game performance and survey answers will be stored on a protected server at the University of California Riverside Brain Game Center. The server was specifically created for UAS participants and it is monitored by UAS staff. Your data, combined with data from everyone else in the study, will be used by the University of California Riverside Brain Game Center team and the UAS team for the purpose of better understanding the impact of regularly playing these kinds of games.

No researchers in this study team or any other will ever have access to data that could identify you. As with all other UAS surveys and projects, your responses will be kept confidential, and no one outside the UAS team will be able to link your answers back to you.

At the end of the study the data will be stored on the UAS's secure servers and, along with your survey responses, will be added to the UAS repository. Data from this study may be used by this study team for future research, and it may be shared with other research teams for studies that are similar or different than this research.

The data will be used to create reports, publications, and presentations to inform researchers and the public about what we learn.

If you do not want your data used for these purposes, you should not participate. If you decide to participate and then later change your mind, your study data will be deleted upon request.

screen3 (Section Consent)
What benefits will I receive from participating?

This study is designed to evaluate the effectiveness of brain games that may provide potential cognitive benefits. However, we do not know whether these games are effective.

By participating in this research, you will contribute new information, which may be of benefit to others in the future.

This study **is not designed** to assess your cognitive abilities. Hence, the study team **will not provide** you with an assessment of your cognitive functioning based on your performance in the brain games.

IF randomizer_incentive = 1 THEN

  screen4a (Section Consent)
  Will I be paid for my participation?

  The first survey of this study will take about 8 minutes and you will earn $5 for completing it. You will also receive compensation for playing brain games. Specifically, you will receive $1 for each training/assessment session you complete and a $8 bonus if you complete all 22 sessions within 3 calendar weeks (counting from the day you do your first session). At the end of the study, there will be a final survey of about 4 minutes, and you will earn $3 for completing it.

  That is a total of $38 if you complete 22 sessions within the three-week period.

ELSE

  screen4b (Section Consent)
  Will I be paid for my participation?

  The first survey of this study will take about 8 minutes and you will earn $5 for completing it. You will also receive compensation for playing brain games. Specifically, you will receive $3 for each training/assessment session you complete, and a $4 bonus if you complete all 22 sessions within 3 calendar weeks (counting from the day you do your first session). At the end of the study, there will be a final survey of about 4 minutes, and you will earn $3 for completing it.

  That is a total of $78 if you complete 22 sessions within the three-week period.

screen5 (Section Consent)
Whom can I talk to?

If you have questions, concerns, or complaints, you can contact the UAS helpdesk via email, uashelp@usc.edu, or phone, 855-872-8673 (Monday - Friday, 9 am to 5 pm, Pacific).

If you do have concerns about your memory or cognitive abilities, these are two informative and authoritative websites, both of which have information about Alzheimer's disease and related disorders:

https://www.nia.nih.gov/health/about-adear-center - - This is a website of the National Institute on Aging.
https://www.alz.org/ - - This is the website of the national Alzheimer's Association. The Alzheimer's Association also maintains a 24/7 helpline: 800.272.3900

cn001 (consent in section Consent)
Do you want to participate in this project?
1 Yes, I will participate
2 No, I prefer not to participate
3 Not sure, I need more information to decide

IF cn001 = 1 THEN
> **screen6** (Section Consent)
> **Confirmation**
>
> Thank you, we are happy that you are interested in our project!
>
> An email has been sent to your email address associated with the UAS with an invitation to complete the pre-study survey UAS482. This survey is now also available on your UAS dashboard. Please complete it when you can.
>
> Thank you!

ELSEIF cn001 = 2 THEN
> /* The answer options in question 'refused' are presented in random order per variables refused_order with values:
>
> - 1 No reason, I just don't want to do it
>
> - 2 I don't have time for this study
>
> - 3 I don't know how to download or use smartphone/tablet apps or I am not sure what they are

○ 4 I don't want another app on my smartphone or tablet / I don't use apps

○ 5 I don't really understand what the project is asking me to do

○ 6 It will be too much trouble

○ 7 It doesn't pay enough

○ 9 Some other reason

Note: the answer option 'Some other reason' is always presented last. */

IF sizeof(refused_order) = 0 THEN
  refused_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4, 5 →5, 6 →6, 7 →7))
  refused_order(9) := 9
END OF IF

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

refused (why refused in section Consent)
We understand and respect that you have your own reasons for not wanting to participate, and are hoping you will share those with us. Help us learn! Check all that apply, and add your own if needed.
1 No reason, I just don't want to do it
2 I don't have time for this study
3 I don't know how to download or use smartphone/tablet apps or I am not sure what they are
4 I don't want another app on my smartphone or tablet / I don't use apps
5 I don't really understand what the project is asking me to do
6 It will be too much trouble
7 It doesn't pay enough
9 Some other reason, please specify:

refused_other (other why refused in section Consent)
STRING

END OF GROUP

ELSE
  dummy := updateParticipate(3)
  Fill code of question FL_extra executed

  extrainfo (Section Consent)
  Thank you for your willingness to consider participating in our study! Here are some answers to frequently asked questions.

  Q: Do I have to download something to my smartphone/tablet? Is it safe?

A: Yes, the Brain Game Center at the University of California Riverside created a safe and simple smartphone/tablet app, which has been approved for use by Android and Apple users. Please note that the app does not access or collect any information stored on your smartphone or tablet like photos, contacts, passwords, GPS, location data, etc. Android users download the app from Google Play Store and Apple users from the Apple App store (simply type "Recollect the Study" in the search and download it). When the study is over, you can remove the app from your device.

Q: What exactly will I be doing?
A: If you decide to join this study, you will first need to download the "Recollect the Study" app on your smartphone/tablet. Then, you will use the app to play brain teaser games and answer a few survey questions.

For this study to be complete, you should complete 22 brain game sessions. We encourage to complete 2 sessions a day and at least 10 sessions per week.

Q: What if I can't complete sessions every day?
A: We are asking you to complete all the 22 sessions and encourage you to complete 2 sessions per day and at least 10 sessions per week. However, if you cannot complete a session every day, that is not a problem. Try your best to complete all 22 sessions.

(You will receive $1 per each session you complete and a $8 bonus if you complete all 22 sessions within 3 calendar weeks (counting from the day you do your first session). /You will receive $3 per each session you complete and a $4 bonus if you complete all 22 sessions within 3 calendar weeks (counting from the day you do your first session).)

If you have any other questions about the study before you decide, please give us a call at 855-872-8673 or send an email to the UAS helpdesk: uashelp@usc.edu new screen.

cn002 (follow up consent in section Consent)
Having read more about it, are you interested in participating in this project?
1 Yes, I will participate
2 No, I prefer not to participate

IF cn002 = 1 THEN
> **screen6** (Section Consent)
> **Confirmation**
>
> Thank you, we are happy that you are interested in our project!
>
> An email has been sent to your email address associated with the UAS with an invitation to complete the pre-study survey UAS482. This survey is now also available on your UAS dashboard. Please complete it when you can.

Thank you!

ELSE/* The answer options in question 'refused' are presented in random order per variables refused_order with values:

- 1 No reason, I just don't want to do it

- 2 I don't have time for this study

- 3 I don't know how to download or use smartphone/tablet apps or I am not sure what they are

- 4 I don't want another app on my smartphone or tablet / I don't use apps

- 5 I don't really understand what the project is asking me to do

- 6 It will be too much trouble

- 7 It doesn't pay enough

- 9 Some other reason

Note: the answer option 'Some other reason' is always presented last. */

IF sizeof(refused_order) = 0 THEN
refused_order := shuffleArray(array(1 →1, 2 →2, 3 →3, 4 →4, 5 →5, 6 →6, 7 →7))
refused_order(9) := 9
END OF IF

GROUP OF QUESTIONS PRESENTED ON THE SAME SCREEN

refused (why refused in section Consent)
We understand and respect that you have your own reasons for not wanting to participate, and are hoping you will share those with us. Help us learn! Check all that apply, and add your own if needed.
1 No reason, I just don't want to do it
2 I don't have time for this study
3 I don't know how to download or use smartphone/tablet apps or I am not sure what they are
4 I don't want another app on my smartphone or tablet / I don't use apps
5 I don't really understand what the project is asking me to do
6 It will be too much trouble
7 It doesn't pay enough
9 Some other reason, please specify:

refused_other (other why refused in section Consent)
STRING

| END OF GROUP
END OF IF [   ]
END OF IF

End of section **Consent**

Start of section **Closing**

CS_001 (HOW PLEASANT INTERVIEW in section Closing)
Could you tell us how interesting or uninteresting you found the questions in this survey?
1 Very interesting
2 Interesting
3 Neither interesting nor uninteresting
4 Uninteresting
5 Very uninteresting

CS_003 (comments in section Closing)
Do you have any other comments on the survey? Please type these in the box below. (If you have no comments, please click next to complete this survey.)
STRING

End of section **Closing**

/* Please note that although question CS_003 is listed in the routing, the answers are not included in the microdata in the event identifiable information is captured. Cleaned responses are available by request. */