

Mechanical Turk: Current Issues and Solutions

JOSEPH K. GOODMAN



THE OHIO STATE UNIVERSITY

FISHER COLLEGE OF BUSINESS

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Special Thanks to my Coauthors

GABRIELE PAOLACCI

ERASMUS UNIVERSITY



SCOTT WRIGHT

PROVIDENCE COLLEGE



Agenda

Basics of Mechanical Turk: Issue or Non-issue?

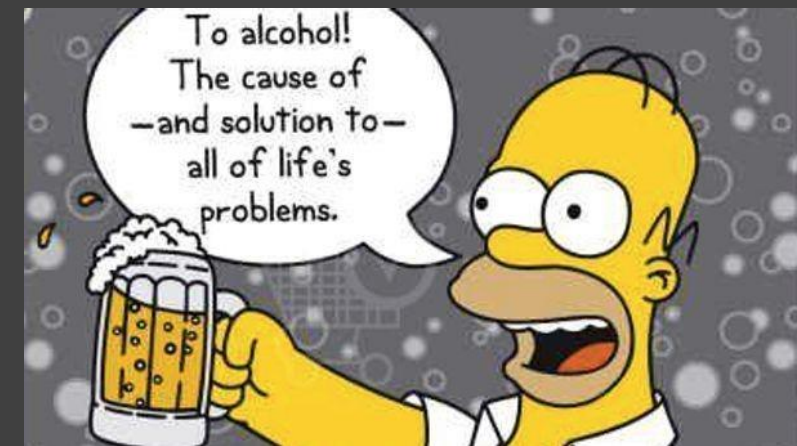
What about editors and reviewers?

Solution to Many Problems: TurkPrime

- ✓ Screen based on demographics or any other criteria that you choose
- ✓ Provide real random completion codes and automatically approve
- ✓ Block repeat participants
- ✓ Calculate Completion & Bounce rates
- ✓ MicroBatch (or HyperBatch)
- ✓ Block duplicate IPs
- ✓ Anonymize worker IDs



TURKPRIME[®]

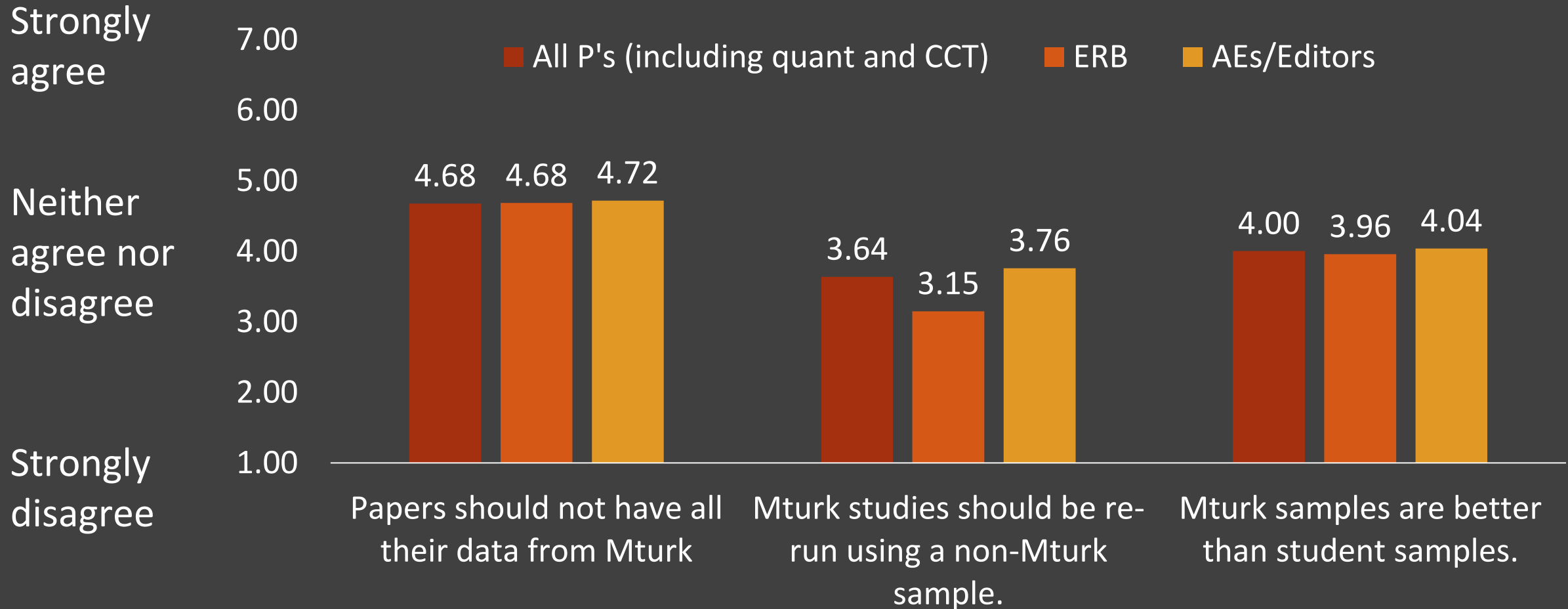


MTurk Myth or Truth?

1. ~~Not real people~~
2. ~~Low quality data~~
3. ~~Uneducated~~
4. ~~Poor/low income~~
5. ~~Internet geeks~~
6. ~~The lab is still more reliable~~
7. ~~They don't pay attention~~
8. ~~Mostly Indian~~
9. ~~Mostly non-native English speakers~~
10. Editors/reviewers won't accept papers with only MTurk data
 - Surveyed marketing researchers at the top 150 schools (CB and non-CB)
 - Asked about their use and opinions of MTurk

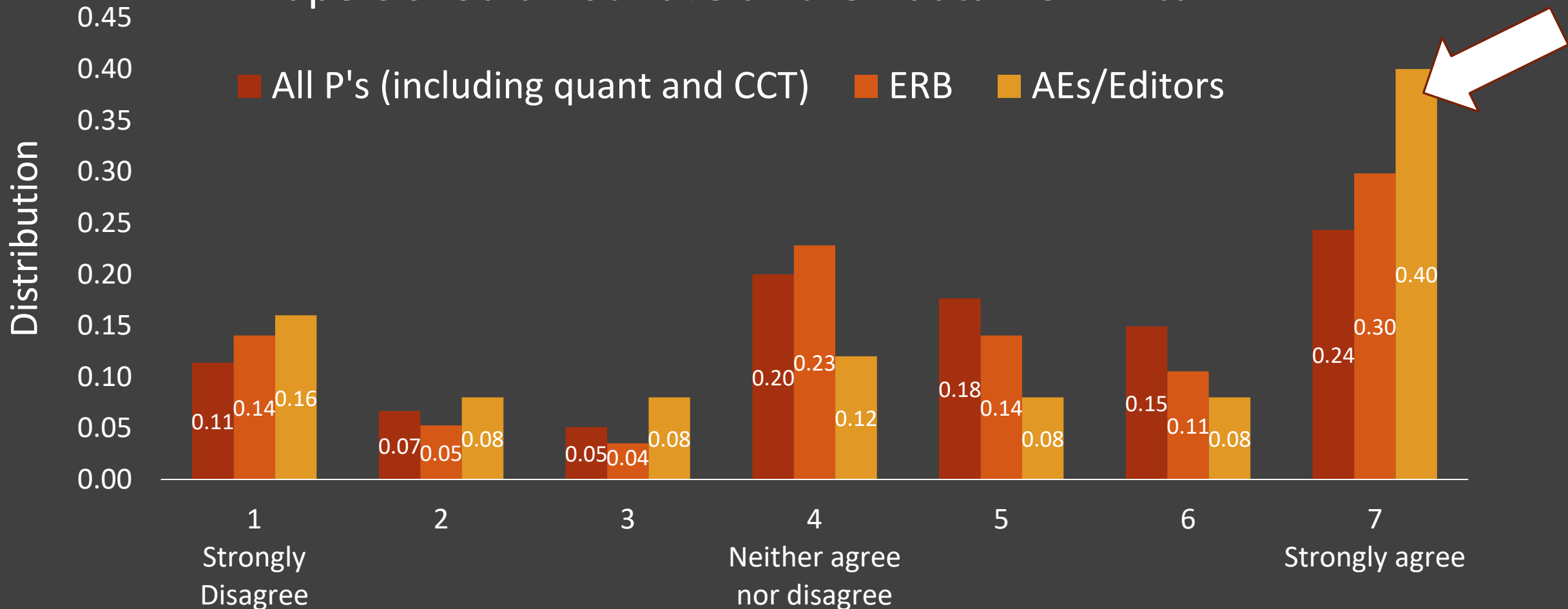


What Do Researchers Think about MTurk?



AE's & Editors are Not All Convinced

"Papers should not have all their data from Mturk"



Solution 1: Stop Doing MTurk Studies



Solution 2: Get a job at Ohio State

(OR OTHER SCHOOL WITH 8000 SUBJECT
HOURS/YEAR)

Solution 3: Measure Real Behavior on MTurk

Example₁: Tonietto, Malkoc, & Nowlis (forthcoming *JCR*)

- P's entered their availability/calendar on Qualtrics
- IV: Generate times bounded/not bounded by tasks (btw SS)
- DV: Choice of MTurk study
 - 30 minute brief study for \$2.50
 - 45 minute full study for \$5.00
 - Neither

Example₂: Coin flip game to measure cheating (Balasubramanian, Bennett, and Pierce 2017)

Solution 3: Measure Real Behavior on MTurk

Example₃: Take picture of artwork and upload or email it

Example₄: Costello and Malkoc (working paper)

- DV: Donate \$ or donate time (micro-donations: counting/classifying animals, algae, weather patterns)

Solution 4: Go Beyond Surveys

Longitudinal studies

- 60% retention rates (but need to pay more)

Group interactions

Webcams for facial expression analysis and analyzing emotions (FaceReader)

Physiological measures

- Measure heart rate (Muender et al. 2016)

RA Work

- Classification of content
- web searches
- registering for websites
- viewing ads
- edit transcripts
- test software
- skilled tasks: logo & graphic design, ad copy
- See Fiverr, Upwork, Guru

Issue: Pre-screening & Non-naiveté

Workers are usually honest, but will lie to be eligible for participation

- 48/106 heterosexual workers claimed LGB to be eligible for study
- 8% women, 17% men changed gender to be eligible for study

Lying increases with compensation

Lie more about owning a dog than religion or politics

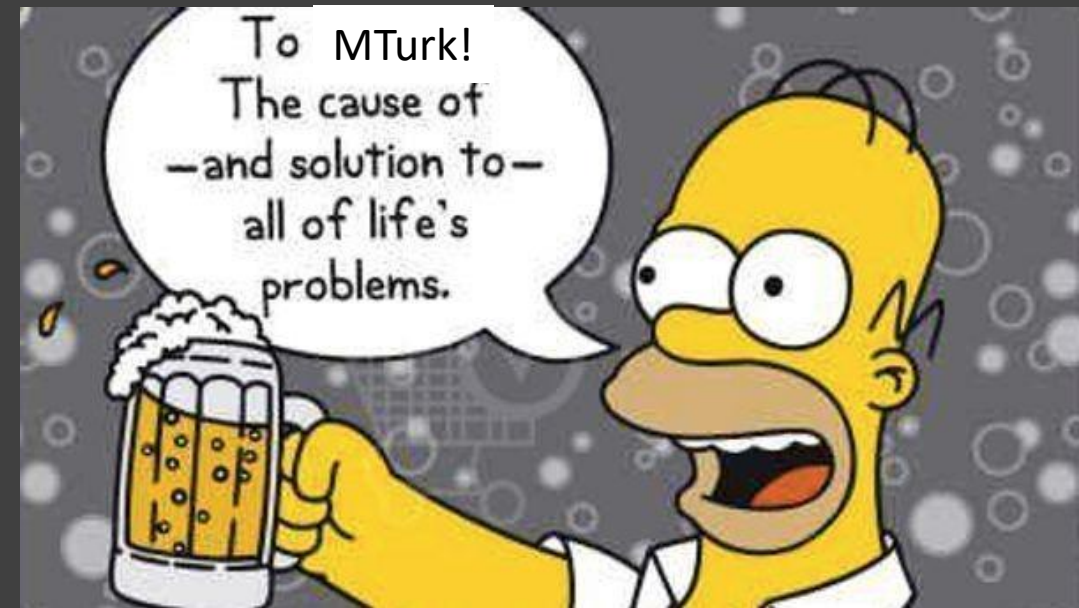
Non-naiveté

- We are sampling the same people across studies

Chandler & Paolacci 2017, Wessling, Huber, & Netzer 2017

A Solution to Many Problems: TurkPrime.com

- ✓ Pre-Screen based on demographics or other criteria
(eg, liberals vs. conservatives)
- ✓ Non-naiveté: Block repeat participants
- ✓ Calculate Completion & Bounce rates
- ✓ Provide real random completion codes and automatically approve
- ✓ MicroBatch & HyperBatch
- ✓ Block duplicate IPs
- ✓ Anonymize worker IDs



Pre-screening on TurkPrime: Two Ways

Pay to use TurkPrime's criteria

- Expensive, but lots of options and fast

Create your own database (see supplemental slides)

- Stage 1: Collect important info (eg, gender, age, political affiliation)
- Stage 2: Launch HIT limited to target group

Guidelines for Researchers

Use qualifications and appropriate pre-screening

- > 95% approval
- Do not expect workers to screen themselves (use TurkPrime or other solution)

Be Ethical – pay a fair wage

- Min wage of \$7.25/hr in US (\$.121/min)
- Paying more ≠ better data

Collect Data and Track your participants

- Collect basic demographics
- Prevents non-naiveté & can do anonymously via TurkPrime

Guidelines for Academic Requesters

http://wiki.wearedynamo.org/index.php/Guidelines_for_Academic_Requesters

- Clearly identify yourself
- Provide reasonable time estimates
- Approve work as soon as possible
- Maintain worker privacy
- Do not block workers
- Maintain a responsive line of communication

Know your reputation. Check out 3rd party websites:



Supplemental Slides: Instructions on How to Create Your Own Database of Workers

Many Issues are Solved by TurkPrime

✔ See our paper "TurkPrime.com: A versatile crowdsourcing data ..." in Behavior Research Methods

Recruit Online Participants

Simple • Affordable • Powerful Crowd|Research

Toolkit for Amazon Mechanical Turk

🎓 Basic Toolkit Free for Academic Users

🔑 MTurk Panels on Your Own Requester Account

Lab Service: Mechanical Turk Panels

👤 Target MTurk Workers by Ethnicity, Age and Custom Traits

Lab Service: Prime Panels

🌐 Recruit from 20 Million Participants by any Demographic



Over 5000 Labs and Researchers Worldwide Use TurkPrime



Create a Study



Mechanical Turk Studies



Run a study on your own MTurk account

- MTurk account required.
- Gives you the flexibility to set payment amounts and other custom settings.
- Directly communicate with workers and monitor your own study progress.



Run a fully managed MTurk study

- No MTurk account needed.
- TurkPrime manages worker communication and study maintenance.
- Reach your desired population with our TurkPrime guarantee.



Need to run a complex study? [Click here for a price quote.](#)



MTurk Toolkit

Worker Payments and MTurk Fees funded with your MTurk Requester account. TurkPrime Lab Fees are funded through your TurkPrime Lab account

1. Panel Options (Optional)

2. Basic Info

3. Describe HIT

4. Setup HIT and Payment

5. How Workers are Approved

6. Worker Requirements

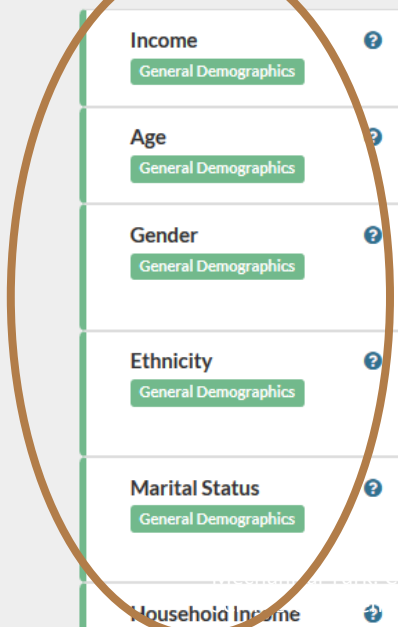
7. MicroBatch (Pro Feature)

8. Pro Features

9. Save

Total Number of Survey Participants
 The number of participants you want to take your HIT

Enter by category... (Suggest Other Demographics)



Income General Demographics
 Min: Less than \$10,000 Max: \$150,000 or more

Age General Demographics
 Min: 18 Max: Over 70

Gender General Demographics
 What is your gender?
 All selected

Ethnicity General Demographics
 Which racial group best describes you?
 All selected

Marital Status General Demographics
 What is your marital status?
 All selected

Household Income General Demographics
 How much total combined income do all members of your household earn before taxes?

If you do not select a Panel then there will be no Panel charge for your study (other fees may apply, such as Pro Features)

Feasibility

✓ Your study will most likely complete.

Note: The panel fee is in addition to Pro Features fees and is funded through your TurkPrime Lab account.

Panel Cost per Worker **\$0.00** Range \$0.15-\$0.75/Worker submission

Number of Workers **1**

Total Panel Cost: **\$0.00 (\$0.00 x 1 Workers)**

Next

Chronic Disability Medical	?	Do you have a disability or chronic illness of any type (either physical or mental)?	All selected
Migraines Medical	?	How often do you experience migraines, if at all?	All selected
Future Exercise Medical	?	Do you intend to engage in regular exercise in the next six weeks?	All selected
Dieting Medical	?	How often are you dieting?	All selected
Fitness Tracker Medical	?	Do you regularly use a pedometer or any other type of fitness tracker?	All selected
Chronic Pain Medical	?	Do you have a diagnosis of chronic pain (pain lasting more than 12 weeks) ?	All selected
Occupation Occupation	?	Which best describes your current occupation/job/career; If student, career goal?	All selected
Current Status Occupation	?	Which of the following best describes your current status?	All selected
Industry Occupation	?	Please select the industry that best describes your work and/or field of training:	All selected
Current College Student Occupation	?	Are you currently?	All selected
Supervisor Occupation	?	Are you employed full time in a supervisory position or higher where people report directly to you?	All selected
Hours Employed Occupation	?	How many hour per week do you work?	All selected

* Title

Title of the survey that will be displayed to workers

Description

A description of your survey

Custom Instructions

B **I**

Survey takes about 1 minute.

Note: This HIT is an academic study being conducted by university researchers. Your answers are completely anonymous and we are just interested in your opinions. It is not being conducted for commercial purposes or to make profit, and it won't be sold or used by a company or marketers. You don't have to search the Internet on this HIT. It's just opinion questions, so please take your time to answer the questions honestly.

Requirements:

- Must be 18 or older

(Optional) It is best to include instructions on your survey landing page. Nevertheless, you may include custom instructions to display to workers.

Standard instructions that workers should follow the hyperlink and submit a secret code (if set) are always included and will follow the custom instructions, if specified.

Keywords

Keywords associated with your HIT

 This project may contain potentially explicit or offensive content, for example, nudity

Worker Payment Per Survey

\$

Amount you will pay each worker who completes your HIT

Expected time to complete HIT

 Minutes

The estimated amount of time for Worker to complete HIT. This will be appended to your HIT description.

Restarting your HITTo enable **Restarting your HIT** make sure that the time allotted for the HIT is no longer than 90 minutes

Time allotted per assignment

 Minutes

Maximum time allowed for a Worker to complete the HIT

HIT expires in

 Days

The amount of time you want your HIT to be active for

* Survey Hyperlink

https://osu.az1.qualtrics.com/jfe/form/SV_3xa1WCRuJL9LSXb [Preview link in new tab](#)

The URL of your survey

Query String ParametersTurkPrime will add the following query string parameters to your URL so you can take advantage of them in your data collection. The parameters are: `workerId`, `assignmentId`, and `hitId`.

- `workerId` -The MTurk Worker ID
- `assignmentId` -A unique ID that Amazon generates for a worker taking your HIT
- `hitId` -The ID of your HIT

For example, if your Survey Link is <https://www.example.com>, we will add the above parameters to the URL, so the final URL might look like <https://www.example.com?workerId=ABCD1435&hitId=35hgfsbdu&assignmentId=vbwjebwufg>. You can then take advantage of these parameters by setting up [Qualtrics Embedded Data](#)**Scheduled Launch Time (UTC)**

Please note that you may leave the Scheduled Launch Time blank if you want to launch your survey right away. This feature is useful if you want to automatically launch your Survey at a later time.

Scheduled Launch Time (UTC) ⓘ

Please note the time needs to be in UTC format so if you want to launch on Feb 15, 2018 at 02:00 PM Eastern Time, the time should be 02/15/2018 07:00 PM

Required Format UTC Time Zone

UTC Time Now: 02/14/2018 04:52 AM

Mechanical Turk: Current Issues and Solutions,

SCP Pre-Conf 2018

Automatic Worker Bonus ⓘ

\$

The amount of time you want your HIT to be active for

* Survey Hyperlink

[Preview link in new tab](#)

The URL of your survey

Query String Parameters

TurkPrime will add the following query string parameters to your URL so you can take advantage of them in your data collection. The parameters are: `workerId`, `assignmentId`, and `hitId`.

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For example, if your Survey Link is <https://www.example.com>, we will add the above parameters to the URL, so the final URL might look like <https://www.example.com?workerId=ABCD1435&hitId=35hgfsbdu&assignmentId=123456789>. You can take advantage of these parameters by setting up [Qualtrics Embedded Data](#)

Scheduled Launch Time (UTC)

Please note that you may leave the Scheduled Launch Time blank if you want to launch your survey right away. This feature is useful if you want to automatically launch your Survey at a **later** time.

Scheduled Launch Time (UTC) ?

Please note the time needs to be in UTC format so if you want to launch on Feb 15, 2018 Eastern Time, the time should be 02/15/2018 07:00 PM

Required Format UTC Time Zone

UTC Time Now: 02/14/2018 04:52 AM

Automatic Worker Bonus ?

Now go to your Qualtrics Survey → “Survey Flow” →
“Set Embedded Data” → enter variable names (case sensitive!)

Survey Flow MTurk Demographics Survey

Show Block: Default Question Block (13 Questions) [Add Below](#) [Move](#) [Duplicate](#) [Delete](#)

Set Embedded Data:

hitId Value will be set from Panel or URL. [Set a Value Now](#)

assignmentId Value will be set from Panel or URL. [Set a Value Now](#)

workerId Value will be set from Panel or URL. [Set a Value Now](#)

[Add a New Field](#)

[Add Below](#) [Move](#) [Duplicate](#) [Add From Contacts](#) [Options](#) [Delete](#)

[+ Add a New Element Here](#)

qualtrics

My Surveys Create Survey Edit Survey Distribute Survey View Results Library

Look & Feel Survey Options Survey Flow Print Survey Spell Check Preview Survey

Personality study 21 - Last saved 24 Aug 2015 at 10:27pm

Survey Flow

Personality study 21

- Show Block: Default Question Block (1 Question)
- Show Block: Block 1 (14 Questions)
- + Add a New Element Here

Survey Flow

Personality study 21

- Show Block: Default Question Block (1 Question)
- Show Block: Block 1 (14 Questions)

What do you want to add? Cancel

Block Branch Embedded Data Randomizer Web Service

Table of Contents Conjoint

+ Add a New Element Here

- Show Block: Default Question Block (1 Question) [Add Below](#) [Move](#) [Duplicate](#) [Delete](#)
- Show Block: Block 1 (14 Questions) [Add Below](#) [Move](#) [Duplicate](#) [Delete](#)
- Set Embedded Data:
 - workerid Value will be set from Panel or URL. [Set a Value Now](#)
 - [Add a New Field](#)[Add Below](#) [Move](#) [Duplicate](#) [Add From Panel](#) [Options](#) [Delete](#)

+ Add a New Element Here

Survey Flow

Personality study 21

- Show Block: Default Question Block (1 Question) [Add Below](#) [Move](#) [Duplicate](#) [Delete](#)
- Show Block: Block 1 (14 Questions) [Add Below](#) [Move](#) [Duplicate](#) [Delete](#)
- Set Embedded Data:
 - workerid Value will be set from Panel or URL. [Set a Value Now](#)
 - assignmentid Value will be set from Panel or URL. [Set a Value Now](#)
 - hitid Value will be set from Panel or URL. [Set a Value Now](#)
 - [Add a New Field](#)[Add Below](#) [Move](#) [Duplicate](#) [Add From Panel](#) [Options](#) [Delete](#)

+ Add a New Element Here



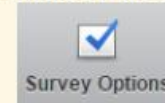
Back to TurkPrime...

Dynamic Completion Code For Qualtrics

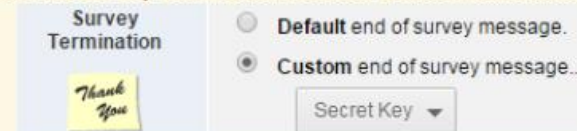
- Each worker will have a unique secret code. Your HIT can either be auto-approved or manually approved.

Setup for Qualtrics

1. Create or Edit a Survey
2. Click on "Survey Options"



3. In the Survey Termination Section: Click on Custom end of survey message...



4. If you have a Secret Key option that you previously created Select it and you are done/ Otherwise, Click New Message
5. Enter Secret Key in the Description field. (Next time you can select this message.)
6. Click the Source



button

7. Paste the following text exactly into the window as shown

```
<iframe src='https://www.TurkPrime.com/TakeLaunchedSurvey/DynamicKey' width='100%' height='200'></iframe>
```

Create a New Message

Category End of Survey Messages

Description Secret Key



```
https://www.turkprime.com/TurkPrime/TakeLaunchedSurvey/DynamicKey' width='100%' height='200'></iframe>
```

8. Click Save

Joseph K. Goodman, PhD

Auto Pay Workers (approve only if completion code is correct)

```
https://www.turkprime.com/TurkPrime/TakeLaunchedSurvey/DynamicKey' width='100%' height='200'></iframe>
```

8. Click Save

Safety Feature

Automatic grading will only approve Workers and not reject them. Rejections must be performed manually (in the Dashboard) before the "Auto pay workers in" time frame found below. See [this](#) blog post for more details.

Manual Assignment Management

You will manually approve the HIT assignments and it will **NOT** be auto-approved based on the secret key.

Auto pay workers in

The time before workers are automatically approved for work (Useful only if no Secret Code is specified and HIT is manually approved)

Previous

Next

Exclude Workers Who Completed These Surveys (live studies are not included)

Select Excluded Surveys

x inc exc pilot[Study about Decision Making(~ 8 minutes)Sep 27 2016 6:02PM](22243)

Allow only Workers Who Completed and Were Approved

Select Included Surveys

All

of These Surveys (live studies are not included)

Blocks workers that participated in your other relevant studies

Exclude Workers with These Worker IDs (You can use either TurkPrime Worker IDs or Amazon Worker IDs). Enter each on a separate line (Maximum 2000)

Blocks workers that participated in your other relevant studies

Include Workers with These Worker IDs (You can use either TurkPrime Worker IDs or Amazon Worker IDs). Enter each on a separate line (Maximum 2000)

Other Qualifications...

Worker Qualifications

Worker Level

Any Level

Master

Location

is one of

Select Locations (up to 30)

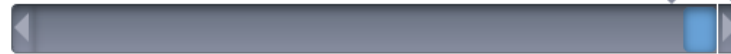
× UNITED STATES

Note Regarding HIT Approval Rate

When you set **HIT Approval Rate** (e.g. 80-100%) TurkPrime automatically sets **Number of HITs Approved** to be at least 100 since MTurk assigns an Approval Rate of 100% to Workers who have completed less than 100 HITs ([MTurk API Reference](#)).

HIT Approval Rate (%) for all Requesters' HITs

95 100



HIT Approval Rating: 95-100%

Number of HITs Approved

100

1,000,000



Worker needs to have completed between 100-1,000,000 HITs

Group Requirements

Select Group Requirements (up to 5)

[Create a new Worker Group here](#)

New Naivete (Exclude most active Workers) ([more details](#))

Naivete is free until April 1, 2018.

Previous

Next

MicroBatch

1. Advanced Options (Optional)	2. Basic Info	3. Describe HIT	4. Setup HIT and Payment
5. How Workers are Approved	6. Worker Requirements	7. MicroBatch (Pro Feature)	8. Pro Features

Pro Feature

Lab fees may apply. See [Pricing](#) page for details

MicroBatch HITS

Some issues to be aware of with MicroBatch

- Please be advised that MicroBatch HITS take longer to complete. The average study takes 1 hour per 7 workers, but times may vary.
- MicroBatch will not be enabled if the Time allotted for your HIT is more than 90 minutes
- Additionally, MicroBatch will not be enabled if you Include Workers

MicroBatch



The survey will be batched into small HITS
(Duration for survey must be 90 minutes or less and you cannot include any Workers for this to be enabled)

Auto Restart Time In Minutes

The time delay between successive MicroBatch HITS.
If left blank, the value will be system optimized.



Number Participants Per Batch

The number of participants per MicroBatch HIT. Value of 9 or less will save 50% off MTurk fees.



Pro Features

Lab fees may apply. See [Pricing](#) page for details.

Block Duplicate IP Addresses Will prevent multiple responses from the same IP address

[\(more details\)](#)

HyperBatch The survey will be batched into small HITs and will complete faster than

[MicroBatch \(more details\)](#)

(will disable MicroBatch)

Anonymize Worker IDs [\(more details\)](#)

Verify Worker Country and State Location

Survey Group

No Survey Group

There are currently no surveys in the selected group

[+ Create New Survey Group](#)

US Regions

US Region Targeting will remove all other country and state locations that were selected on the "Worker Requirements" tab

Northeast

? New England (States include: CT,MA,ME,NH,RI,VT)

? Mid-Atlantic (States include: NJ,NY,PA)

HyperBatch cannot be used with more than 1000 people

Amazon Worker IDs are anonymized and replaced with TurkPrime Worker IDs which can be used on TurkPrime to Include/Exclude Workers etc.

Workers whose IP addresses are not consistent with your country location settings will be blocked from taking your study.

Assign studies to the same group to exclude Workers who accepted one study from accepting any other study even if all the studies are run at the same time. See [this](#) blog post for more details