



Great ShakeOut Earthquake Drills: Communicating Risk, Motivating Action

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The Challenge



How do you get people to stop, listen, and get ready for earquakes...

- They think won't really happen
- And if they do, they will happen to other people

Fear-based appeals are appealing, but not particularly effective

Red Cross Study

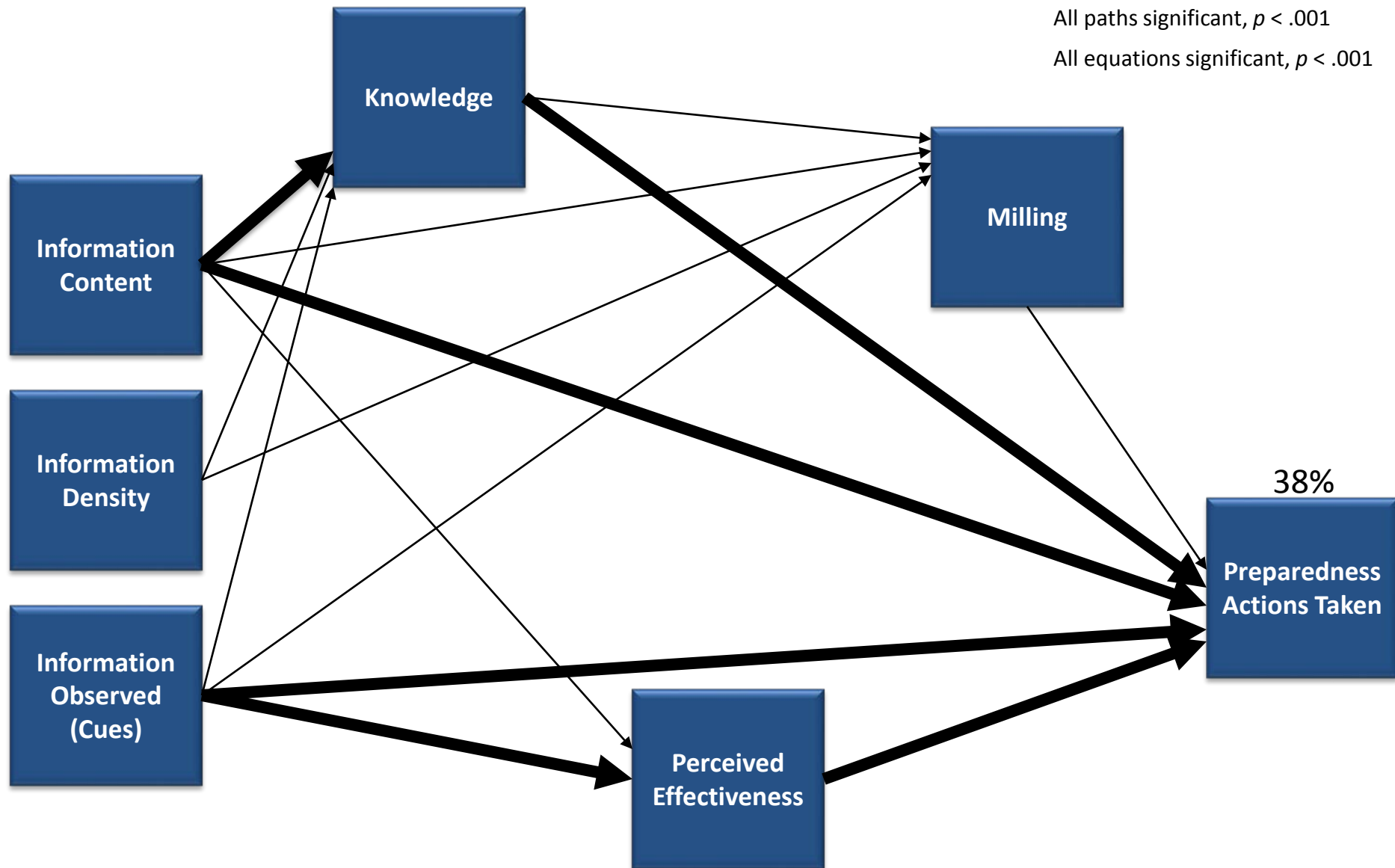
- Preparedness increased for those who saw “what to do” images but decreased for those who saw disaster images
- (Lopes, 1992)

Southern California Study

- Preparedness increased in a subset who felt up to the task
- For all others, preparedness decreased
- (Duval & Mulilis, 1999)

What is the underlying causal mechanism that motivates people to take preparedness actions?

Communicating Actionable Risk



What Things Matter in Motivating Preparedness?

Things that don't matter much

Things that matter

Information observed/heard
(cues)

Information content
(what actions to take, how actions cut losses, consistent)

Information density
(multiple sources, channels)

Perceived risk
(increased probabilities, fear)

Demographics
(tiny effects)

Indirect & weak

Can still impact action-taking by influencing affordability & information pathway effectiveness

Implications for Risk Communicators



Purpose

1

Describe Great ShakeOut Earthquake Drills, designed to motivate preparedness actions before, and increase protective actions during, an earthquake

2

Present program evaluation results

3

Discuss the future role of ShakeOut drills in relation to earthquake early warnings

Great ShakeOut Earthquake Drills

Annual preparedness events held worldwide when millions of people practice



(or other regionally-appropriate protective actions)

Many do much more!

Created in Southern California in 2008

- Based on “ShakeOut Scenario” research study, led by Dr. Lucy Jones (U.S. Geological Survey) and involving more than 300 partners
- 7.8 magnitude earthquake on the San Andreas fault
- Scenario was the basis of a comprehensive emergency management exercise organized by the State of California
- The Great Southern California ShakeOut drill created by Earthquake Country Alliance partners to involve families, schools, and organizations
- 5.4 million Southern California participants

Growth of ShakeOut Drills

- 2008: **5.4 million** Southern California.
- 2009: **6.9 million** California, New Zealand West Coast.
- 2010: **7.9 million** California, Nevada, Guam.
- 2011: **12.5+ million** CA, NV, GU, OR, ID, BC, and Central US (AL, AR, GA, IN, IL, KY, MI, MO, OK, SC, TN).
- 2012: **19.4 million** All above plus: AK, AZ, SouthEast (DC, GA, MD, NC, SC, VA), UT, WA, Puerto Rico, Japan (Tokyo), New Zealand, Southern Italy, and a new “Global” site for all other areas.
- 2013: **24.9 million** All above plus: CO, DE, HI, MT, OH, WV, WY, NorthEast region (CT, PA, MA, ME, NH, NJ, NY, PA, RI), American Samoa, U.S. Virgin Islands, Commonwealth of Northern Marianas Islands. Charlevoix region of Quebec, and expansion across Japan.
- 2014: **26.5+ million** All above plus FL, KS, NM, Yukon, Quebec, participation in 20+ other countries via Aga Khan Development Network.
- 2015: **43+ million** All above plus IA, LA, NE, TX, partnerships with several new countries.

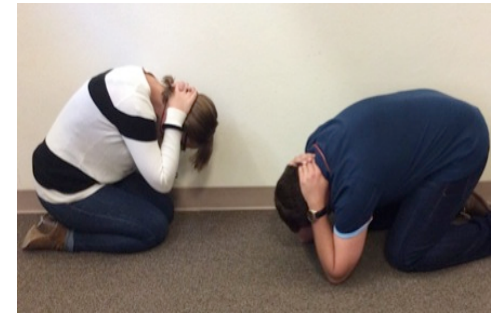
Why Drop, Cover, and Hold On?



Christchurch, New Zealand September, 2010 Magnitude 7.0

Protect Yourself

- **Drop** to the floor (or bend over in chair)
- **Cover** your head and neck with one hand, then take shelter under a nearby table or desk, or against a wall
- **Hold On** to your shelter until shaking stops (if not under something, cover your head and neck with both hands)



Know Your Response

- Know how to adapt your response based on your needs
 - If you can't get up, don't get down
- Know what you need so you can instruct others on how to assist you
- To do it is to know it

**IF
POSSIBLE**



**USING
CANE**



**USING
WALKER**



**USING
WHEELCHAIR**



ShakeOut Mission and Goals

Mission:

Everyone, everywhere should know how to protect themselves during earthquakes

Goals:

- Encourage people worldwide to practice earthquake safety
 - Register at www.ShakeOut.org
- Shift the culture about earthquakes and preparedness
 - Inspire discussions about being prepared to survive and recover
- Increase earthquake readiness at all levels
 - Whole Community: family, community, school, business, government...

Everyone... Everywhere, & Growing!

2015 Great ShakeOut Earthquake Drills

Participating States, Territories, Provinces, & Countries

■ **U.S. (October)**

■ **U.S. (April)**

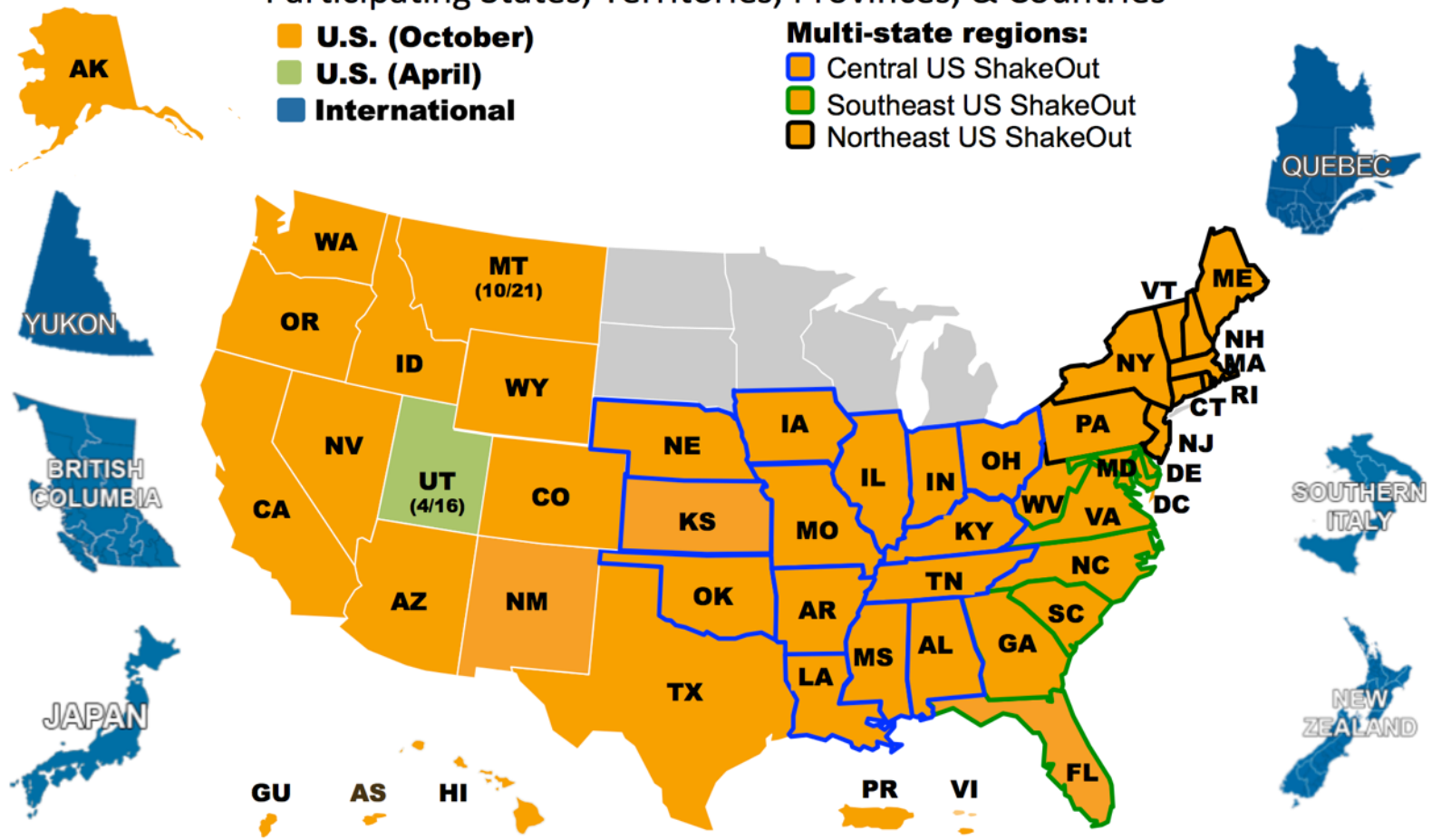
■ **International**

Multi-state regions:

■ Central US ShakeOut

■ Southeast US ShakeOut

■ Northeast US ShakeOut



www.shakeout.org & www.shakeout.org/california

Home ▾ ShakeOut Regions ▾ Other Languages ▾ Contact Us Search Login

Shake Out

Great ShakeOut Earthquake Drills

[Register Here!](#) [Why Participate?](#) [Who is Participating?](#) [How to Participate](#) [Resources](#) [News & Events](#) [Partners & Sponsors](#)

SHAKEOUT REGIONS AND CURRENT REGISTRATION LEVELS

Everyone, everywhere, should know how to protect themselves in an earthquake. Even if earthquakes are rare where you live, they may happen where you or your family travel. Great ShakeOut Earthquake Drills are an annual opportunity for people in homes, schools, and organizations to practice what to do during earthquakes, and to improve preparedness. Most participants are in one of the Official ShakeOut Regions shown below. People and organizations in [other states or countries](#) can also register to be included.

To register or learn more, click a map below or choose from this list: [Select one...](#)

[Información en Español](#)

All current ShakeOut drills shown below will be held on 10/16/2014 unless specified.

REGION	CURRENT DRILL (as of today)	PREVIOUS DRILL	REGION	CURRENT DRILL (as of today)	PREVIOUS DRILL
California	7.2 million	9.60 million	Central U.S. (AL AR IL IN KY MO MS OH OK TN)	740,000	2.46 million
Japan	754,628 (Various Dates)	2,226,000 (Various Dates)	SouthEast (DC DE GA MD NC SC VA WV)	460,000	1.92 million
Washington	390,000	872,000	Utah	830,000 (4/17/2014)	863,000 (4/17/2013)
British Columbia	200,000	695,000	Puerto Rico	5,000	653,000
Nevada	27,000	567,000	NorthEast (CT MA ME NH NJ NY PA RI VT)	65,000	302,000
Oregon	55,000	271,000	Arizona	70,000	116,000
Rocky Mountain (CO WY MT)	Separate State Drills, Coming Soon	112,000	Idaho	19,000	103,000
Guam	9,000	67,000	Alaska	54 (10/16/2014)	104,000 (3/27/2014)
American Samoa	1,000	16,000	Hawaii	1,000	15,000
Charlevoix, Quebec	Coming Soon	13,000	U.S. Virgin Islands	0	12,000
CNMI	0	12,000	Southern Italy	0	7,100

1.3 million

Home ▾ Other ShakeOuts ▾ Other Languages ▾ Contact Us Search Login

The Great California Shake Out

[Register Here!](#) [Why Participate?](#) [Who is Participating?](#) [How to Participate](#) [Resources](#) [News & Events](#) [Partners & Sponsors](#)

GET READY TO SHAKEOUT!

Millions of people worldwide will practice how to [Drop, Cover, and Hold On](#) at 10:16 a.m. on October 16* during [Great ShakeOut Earthquake Drills](#), which began in California in 2008.

Participating is a great way for [your family or organization](#) to be prepared to survive and recover quickly from big earthquakes—wherever you live, work, or travel.

Registration will soon open for the 2014 ShakeOut. Past registrants will be emailed when they can renew their participation.

* You can hold your drill at any time within 2 weeks of October 16.



LEARN THE LATEST

Media Resources

Web resources, Experts List, Key Messages, [Media Venues](#), and more

How to Participate

Information for individuals, schools and many types of organizations

ShakeOut Resources

"Drill Broadcast" recordings, manuals, [videos](#), posters, & much more

Share your ShakeOut!

Share your photos, videos, and stories, and view others

ShakeOut Participant Updates

Frequently Asked Questions

9.6 million registered [Now! until ShakeOut on 10/17](#)

PLAN YOUR DRILL

How to plan your drill:
Select your category: Go

Regional Earthquake Information:
Select your area: Go

ShakeOut Shop

[Countdown to ShakeOut for Organizations \(PDF\)](#)

[Why Drop, Cover, and Hold On?](#)

Recommended Earthquake Safety Actions ([PDF](#) | [RTF](#))

CHECK THE STATS

9.6 million participants and counting!
(Over 24.7 million worldwide)

Click the map for details about each area

2012 Participants
Total: 9.4 Million
[Click Map for Area Total](#)



PLAY AND SHARE

PLAY BEAT THE QUAKE



Earthquake by the American Red Cross
Download the FREE app today!

TOTALLY UNPREPARED

QUAKE QUIZ

Canada



Shakeout.org/yukon
(Yukon)
Since 2014

Shakeoutbc.ca
(British Columbia)
Since 2011

grandesecousse.org
(Quebec)
Since 2013

Japan

ホーム 世界のシェイクアウト お問い合わせ サイト内検索 検索

シェイクアウトに参加しよう
申し込みもう!

なぜ?
(参加意義)

だれが?
(参加者)

どうやって?
(参加方法)

ダウンロード

ニュースと
イベント情報

これまでの
シェイクアウト

日本シェイクアウト
提唱会議

The Great Japan ShakeOut

The Great Japan ShakeOut 2015 の登録者数 1,063,172 名

シェイクアウトに参加しよう!

The Great Japan ShakeOutは、米国カリフォルニア州で生まれた一斉防災訓練『ShakeOut (シェイクアウト)』を広く日本に普及させるため、訓練に必要な学習資料やパンフレット、イベントの情報、各地で行われたシェイクアウト訓練の告知や報告を取りまとめているサイトです。

日本シェイクアウト
参加登録者総数

2015(平成27)年
1,063,172名

2014(平成26)年
4,453,244名

主催団体

都道府県

市町村その他

地図から探そう

日本地図の都道府県をクリックすると
その地区でのシェイクアウト訓練のリス
トが表示されます。

東京都での
シェイクアウト訓練

Chiyoda
ShakeOut
千代田区

2015年3月10日(火)
10:00～ 実施
登録者数 22,304 名(03/06)

Setagaya
ShakeOut
世田谷区

2015年3月11日(水)
9:30～ 実施
登録者数 5,384 名(03/05)

Tokyo
ShakeOut

- 2014: 4.4 million participants
- Many local and prefecture-based drills on various dates
- Website and registration managed independently of other ShakeOut regions



New Zealand

The screenshot shows the New Zealand ShakeOut website interface. At the top is a banner with the 'New Zealand ShakeOut' logo and a scenic view of a coastline. Below the banner is a navigation bar with links to HOME, facebook, and twitter, along with a search bar and a 'GO' button. The main content area is divided into several sections:

- Register Here!**: A section encouraging users to register for the 2012 ShakeOut, which is scheduled for 9:26am on Wednesday 26 September. It includes a video player titled 'NZ Get Thru - What To Do' and a 'Sign up here' link.
- LEARN THE LATEST**: A section providing updates and resources, including 'Observer information and evaluation form', 'How to trigger the drill', 'New Zealand Earthquake Hazards', and 'ShakeOut Resources'.
- PLAN YOUR DRILL**: A section with a dropdown menu to select a category and a map of New Zealand to check the stats. It also includes links to 'Countdown to ShakeOut for Organisations (PDF)' and 'How to trigger the drill'.
- CHECK THE STATS**: A section displaying 'Over 950,000 Participants and Counting!' and a map of New Zealand.
- PLAY & SHARE**: A section with social media links (Facebook, Twitter) and a 'GET READY GET THRU' button.

At the bottom of the website, there is a footer with a Creative Commons license and a link to the 'New Zealand ShakeOut' logo.

- 2012: 1.3 million participants
- 2015: 1.4 million participants



Spanish Website

Inicio Otros ShakeOuts Otros Idiomas Contáctenos Búsqueda Iniciar sesión

ShakeOut

El Gran ShakeOut

Simulacros de Terremoto

[¡Inscríbese aquí!](#) [¿Por qué participar?](#) [¿Quien participará?](#) [Cómo Participar](#) [Recursos](#) [Noticias y Eventos](#) [Socios](#)

¡AHORA SE PUEDE PARTICIPAR EN CUALQUIER PARTE!

¡Le invitamos a [unirse](#) a millones de personas que van a ["Agacharse, Cubrirse y Agarrarse"](#) el 16 de octubre a las 10:16 a.m.!

La mayoría de los participantes pertenecen a uno de las [regiones oficiales del ShakeOut](#). Pero ahora, gente y organizaciones de [otros estados y países](#) pueden aprender [cómo participar](#) y [inscribirse](#).

[Empiece aquí](#) para ser parte del conteo del ShakeOut de 2014!

[ENGLISH](#)

*Puede hacer su simulacro en cualquier día de octubre si el 16/10 no le conviene.

LO ÚLTIMO

[Cómo Participar](#)
Cómo planificar su simulacro y comenzar a prepararse

[¿Quiénes participarán?](#)
Hay listas por región y categoría

[Recursos del ShakeOut](#)
Transmisiones de video y audio, manuales, carteles y mucho más

[Comparta Su ShakeOut](#)
Sus Fotos Y Anécdotas

[¿Porqué debo Agacharme, Cubrirme y Agarrarme?](#)

Más de 8,8 millones participantes inscritos el 16 de octubre a las 10:16 a.m. 147 días para el ShakeOut

A PLANIFICAR

Cómo planificar su simulacro y más: Seleccione su categoría: Ir

Descarga: Acciones sugeridas para la seguridad durante terremotos ([PDF](#))

[FAQ: Preguntas frecuentes](#)

REPASE LAS ESTADÍSTICAS

Cuántas más personas y organizaciones [se inscriban](#), estos totales crecerán. ¡Exhorte a los demás que participen!

Total del 16 de octubre de 2014:	Más de 7,2 millones
Los participantes en regiones oficiales del ShakeOut:	Más de 7,2 millones
Los participantes en otras partes:	Más de 7.000
Total mundial de 2014:	Más de 8,8 millones

JUEGUE Y PARTICIPE

DERROTA AL TEMBLOR

[¡AGÁCHASE!](#) [¡CÚBRASE!](#) [¡AGÁRRESE!](#)

- Global site for all Spanish-speaking participants (except Puerto Rico)
- Registrants are counted in their state or country
- Model for other languages



New ShakeOut Regions (2014-2016)

- North America
 - Rocky Mountain: Split into CO, WY, MT (14)
 - New Mexico (14)
 - Texas (15)
 - Expansion of Central US (KS14)(IA/LA/NE 15)
 - Florida added to SouthEast (14)
 - Yukon (14)
 - Quebec (expansion from 2013 Charlevoix)
 - Baja California (formally in 16?)
 - Mexico City Sept. evacuation drill? (16?)
- Central / South America
 - Costa Rica?
 - Chile?
 - Peru?
 - Columbia (local participation in 15)
- Europe
 - Italy (expansion in 16)
 - Istanbul (initial participation in 16)
- Asia
 - Interest from:
 - Iran (15)
 - Bangladesh (16?)
 - Philippines (16)
 - Indonesia
 - East Timor
 - China
 - Taiwan
- Africa
 - Ghana (Schools, via EERI)

Benefits of Registering

The screenshot shows the Great California ShakeOut website. The top navigation bar includes links for Home, Other ShakeOuts, Other Languages, Contact Us, Search, and Login. Below the navigation bar is a banner image of a city skyline with the text "The Great California ShakeOut". A secondary navigation bar contains links: Register Here!, Why Participate?, Who is Participating?, How to Participate, Resources, News & Events, and Partners & Sponsors.

The main content area is divided into two columns. The left column, titled "LOCAL GOVERNMENT AGENCIES IN CALIFORNIA", contains the following text:

- 375,578 participants are registered for Great ShakeOut Earthquake Drills worldwide in 2013, by 982 local government agencies.
- 249,627 of these participants are registered for the 2013 California ShakeOut, by 172 local government agencies.
- The local government agencies on the list below agreed to be listed when they registered. ([Not listed?](#))
- Names are linked if a website was provided during registration.

The right column, titled "OTHER LISTS", contains the following text:

- Participants in other categories: Select a category...
- Local government agencies in other areas: Select an area or county...
- Participation totals: Select an area or county...

Below the main content area is a status bar showing "7.3 million registered" and "2 months, 16 days until ShakeOut on 10/17". Below this is a "LIST" section with a pagination bar "Page: 1 2 Next >". The list is organized by county, with the following counties and their respective agencies listed:

- Alameda**
 - City of Oakland, Keep Oakland Clean and Beautiful Division, Oakland
 - City of Oakland
 - Public Works Agency, Oakland
 - County of Alameda
 - Probation Department, Oakland
 - Hayward Area Recreation and Park District, Hayward
- Colusa**
 - Colusa County Sheriff's Office, Office of Emergency Services, Colusa
- Contra Costa**
 - City of Lafayette, Lafayette
 - Contra Costa County Vocational Services, Concord
 - County of Contra Costa
 - Office of the Sheriff, Emergency Services Division, Martinez
 - Moraga-Orinda Fire District, Moraga
- Del Norte**
 - Big Rock Community Services District, Crescent City
 - County of Del Norte
 - Department of Health and Human Services, Mental Health Branch, Crescent City
 - Del Norte Local Transportation Commission, Crescent City
- Humboldt**
 - County of Humboldt
 - County Administrative Office Team, County Administrative Office, Eureka
 - Department of Health and Human Services Social Services Branch, DR Collections Unit, Eureka
 - Humboldt County Public Works, Roads Division, Eureka
 - Humboldt County Public Works Department, Public Works, Eureka
 - Humboldt County Risk Management, Risk Management, Eureka
- Imperial**
 - County of Imperial
 - Imperial County Public Health Department, Imperial County EMS Agency, El Centro
 - Imperial County Medical Reserve Corps, El Centro
 - Imperial County Office of Emergency Services, Heber
- Kern**

- Be **counted** in the world's largest earthquake drill!
- Be **listed** with other participants (Optional)
- Be an **example** that motivates others to get prepared
- Be **updated** with ShakeOut news and safety tips
- Have **peace of mind** that you, your family, your co-workers, and millions of others will **be better prepared to survive and recover quickly** from our next big earthquake!

Example Statistics

2014 participation by ShakeOut Region

Alaska (Mar. 27)	All Regions	103,931
Alaska (Oct. 12)		8,000
American Samoa		5,102
Arizona		123,595
British Columbia		743,126
California		10,410,401
Central U.S. (AL AR IL IN KS KY MO MS OH OK TN)		2,761,667
CNMI		12,508
Colorado		35,971
Guam		78,281
Hawaii		30,007
Idaho		75,220
Japan		4,453,244
Montana		157,189
Nevada		571,494
New Mexico		106,838
NorthEast U.S. (CT MA ME NH NJ NY PA RI VT)		505,590
Oregon		398,815
Puerto Rico		595,954
Quebec		152,808
SouthEast U.S. (DC DE FL GA MD NC SC VA WV)		2,192,111
Southern Italy		12,285
U.S. Virgin Islands		7,249
Utah		835,729
Washington State		1,089,820
Wyoming		10,698
Yukon		9,770
Other States and Countries		1,105,606

Category

Participants

Total:	California	10,410,401
Individuals/Families		11,941
Childcare and Pre-Schools		50,111
K-12 Schools and Districts		6,366,514
Colleges and Universities		1,954,438
Local Government		461,805
State Government		149,993
Federal Government (Including Military)		221,009
Tribes/Rancherias		3,402
Businesses		626,942
Hotels and Other Lodgings		2,337
Healthcare		185,402
Senior Facilities/Communities		17,445
Disability/AFN Organizations		9,727
Non-Profit Organizations		82,167
Neighborhood Groups		30,737
Preparedness Organizations		13,498
Faith-based Organizations		166,366
Museums, Libraries, Parks, etc.		8,407
Volunteer/Service Clubs		258
Youth Organizations		1,993
Animal Shelter/Service Providers		273
Agriculture/Livestock		1,340
Volunteer Radio Groups		931
Science/Engineering Organizations		5,096
Media Organizations		13,671
Other		24,598

Del Norte

[Mary Dorman - State Farm Agent](#), Crescent City
Walmart 1910, Crescent City

El Dorado

AAA
[AAA Northern California, Nevada and Utah](#), Folsom Branch, Folsom

Fresno

[ADT Security Services, LLC](#), Fresno SSO, Fresno
DaVita Healthcare
[Davita Sanger](#), Sanger
[F & F Contracting, Inc./ Etze Trucking/Golden Eagle Charter, Inc.](#), Fresno
HD Supply
[HD Supply White Cap](#), Fresno Branch, Fresno
[Humanscale](#), Fresno facility, Fresno
Kohl's Department Stores
[Kohl's Department Store](#), Fresno
[Kohl's Department Store](#), Fresno
[Kohl's Department Store](#), Clovis
[Landscape Contractors Insurance Services, Inc.](#), Fresno
Macerich
[Fashion Fair Mall](#), Fresno
[Rabobank](#), Fresno

Humboldt

[Cafe Nooner, Cafe Nooner Too](#), Eureka
[Cal-Ore Life Flight](#), Humboldt Base, Eureka
[GHD, Inc.](#), Eureka
Kohl's Department Stores
[Kohl's Department Store](#), Eureka
Pacific Gas and Electric Company
[Pacific Gas and Electric Company](#), ISFSI & Humboldt Bay Generators
[PMFW Productions](#), Eureka
[Stewart Telecommunications](#), Eureka

Imperial

Kohl's Department Stores
[Kohl's Department Store](#), El Centro
[United States Gypsum](#), Plaster City Plant, El Centro

Kern

AEG
[Rabobank Arena, Theater & Convention Center](#), Bakersfield
[Allstate](#), Sales, Ridgecrest
DaVita Healthcare
[Davita-Bakersfield Dialysis Center](#), Bakersfield
Environmental Resources Management
[Environmental Resources Management Bakersfield](#), Bakersfield
[ERM-Bakersfield](#), Bakersfield, Bakersfield
[FedEx Ground](#), Bakersfield
[Golden Empire Transit](#), Bakersfield
[HD Supply Construction & Industrial White Cqp](#), Bakersfield Branch 0

Key ShakeOut Elements

- Public and Private Partners
 - Many people and organizations working together
- A Whole Community approach
 - Customized information for over 20 categories of participants
- ShakeOut.org website
 - Online registration and *listing* of participants
 - Instructions for many types of organizations
 - ShakeOut.org/espanol (also sites in Japanese, French, & Italian)
- ShakeOut Materials
 - Multiple levels of manuals for schools, businesses, organizations, and government agencies; flyers, posters, and much more
- Drill Broadcasts (audio and video narrated instructions)
- Radio, TV, and print promotion and PSAs
- Extensive traditional and social media coverage/interaction



Purpose

1

Describe Great ShakeOut Earthquake Drill activities designed to motivate preparedness actions before, and increase protective actions during, an earthquake

2

Present program evaluation results

3

Discuss the future role of ShakeOut drills in relation to earthquake early warnings

Method

Online survey
questionnaire
administered 4-8
weeks post drill

Registrants invited,
reminded via
emailed linking to
questionnaire

Pretested

Open-ended
questions

Sample

2013

- 2,437 survey participants;
- 1,919 (79%) completers.

2014

- 3,932 survey participants;
- 3,091 (79%) completers.

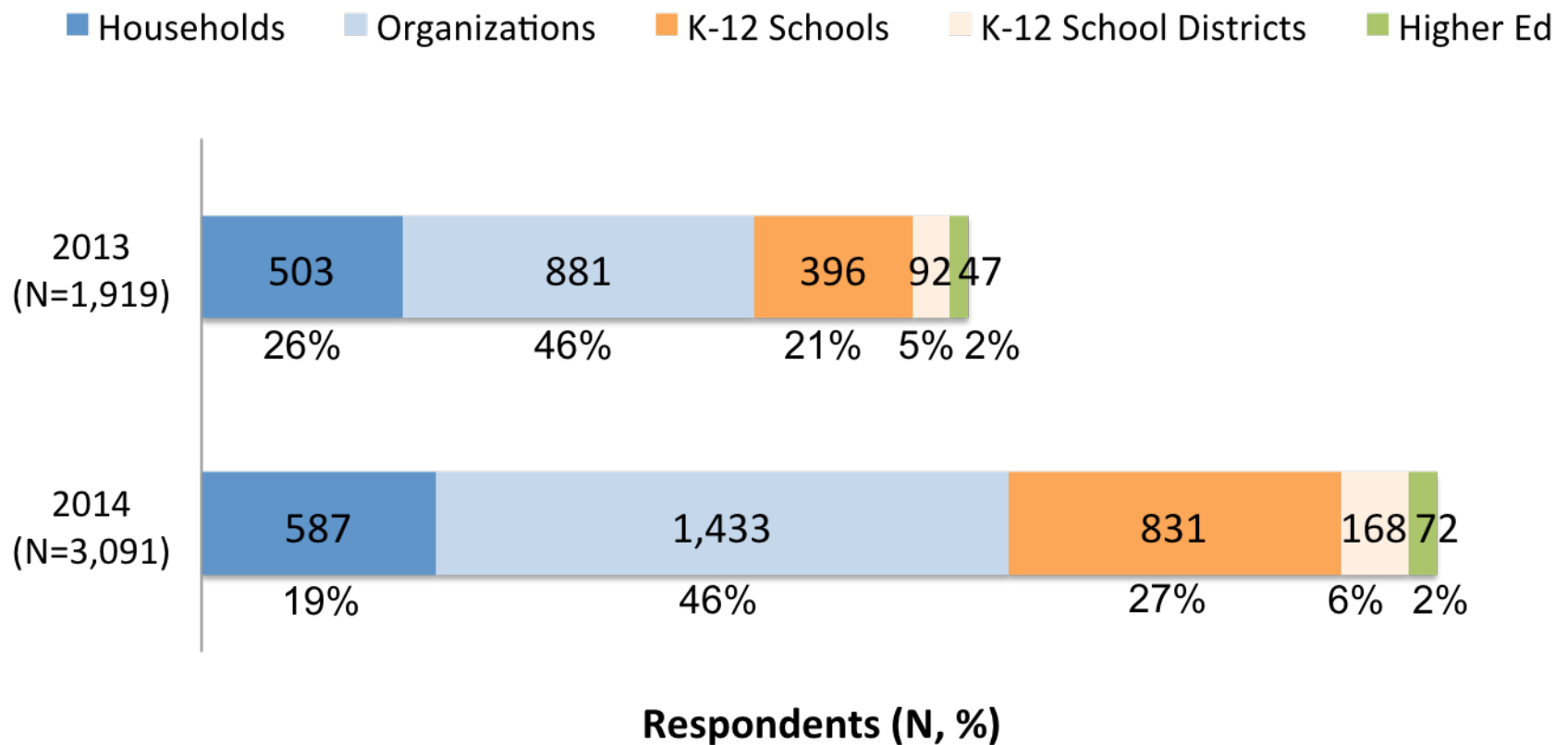
2015

- 6,812 survey participants;
- 5,010 (74%) completers.

Data reported are from completed questionnaires.

Respondent Characteristics

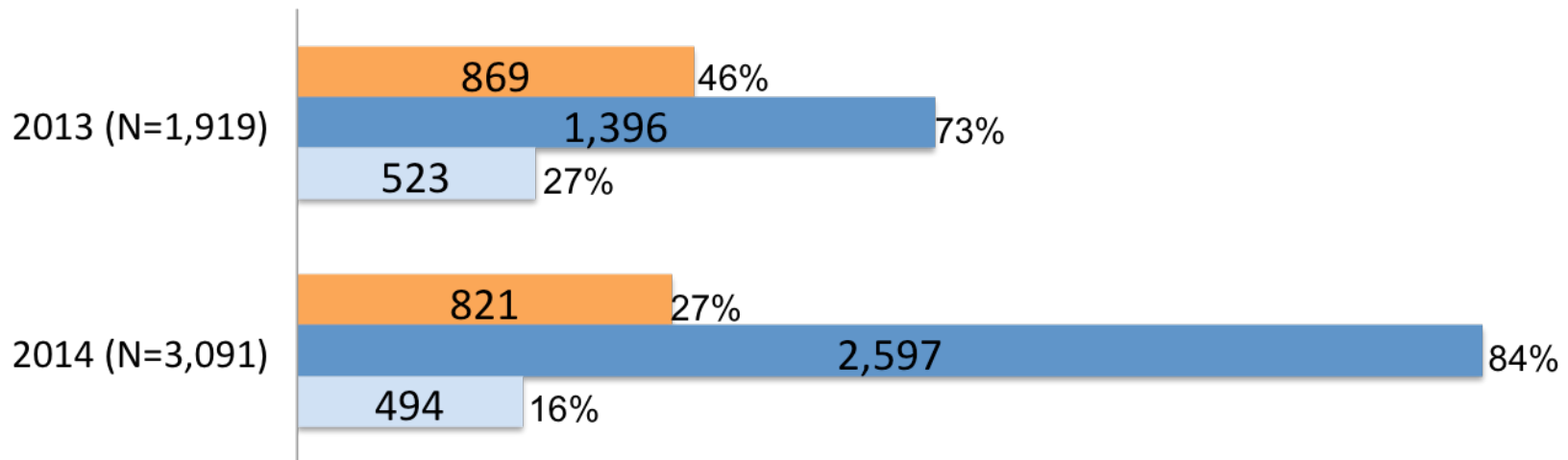
Registration Category



Respondent Characteristics

Geographic Area

CA US International

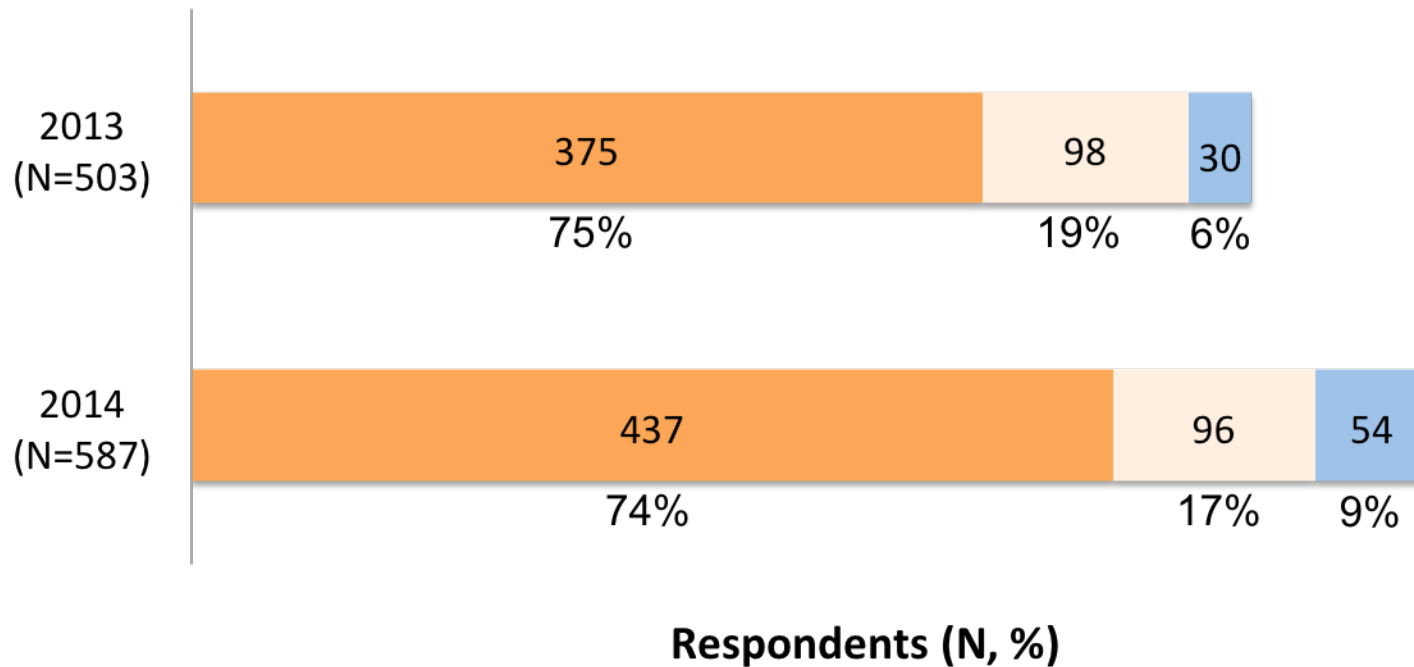


Respondents (N, %)

HH Respondent Characteristics

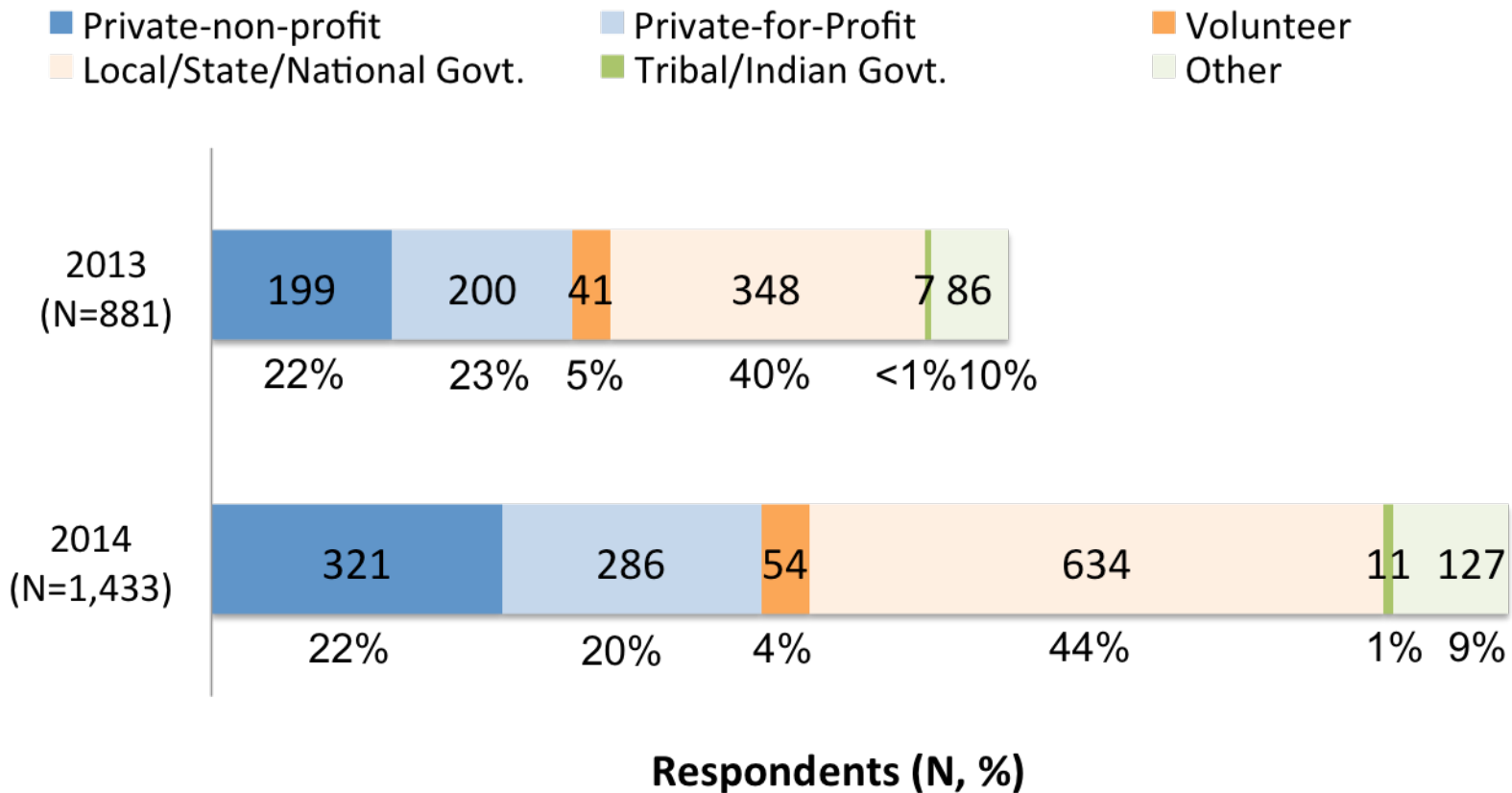
Race/Ethnicity

White Non-White Declined to State

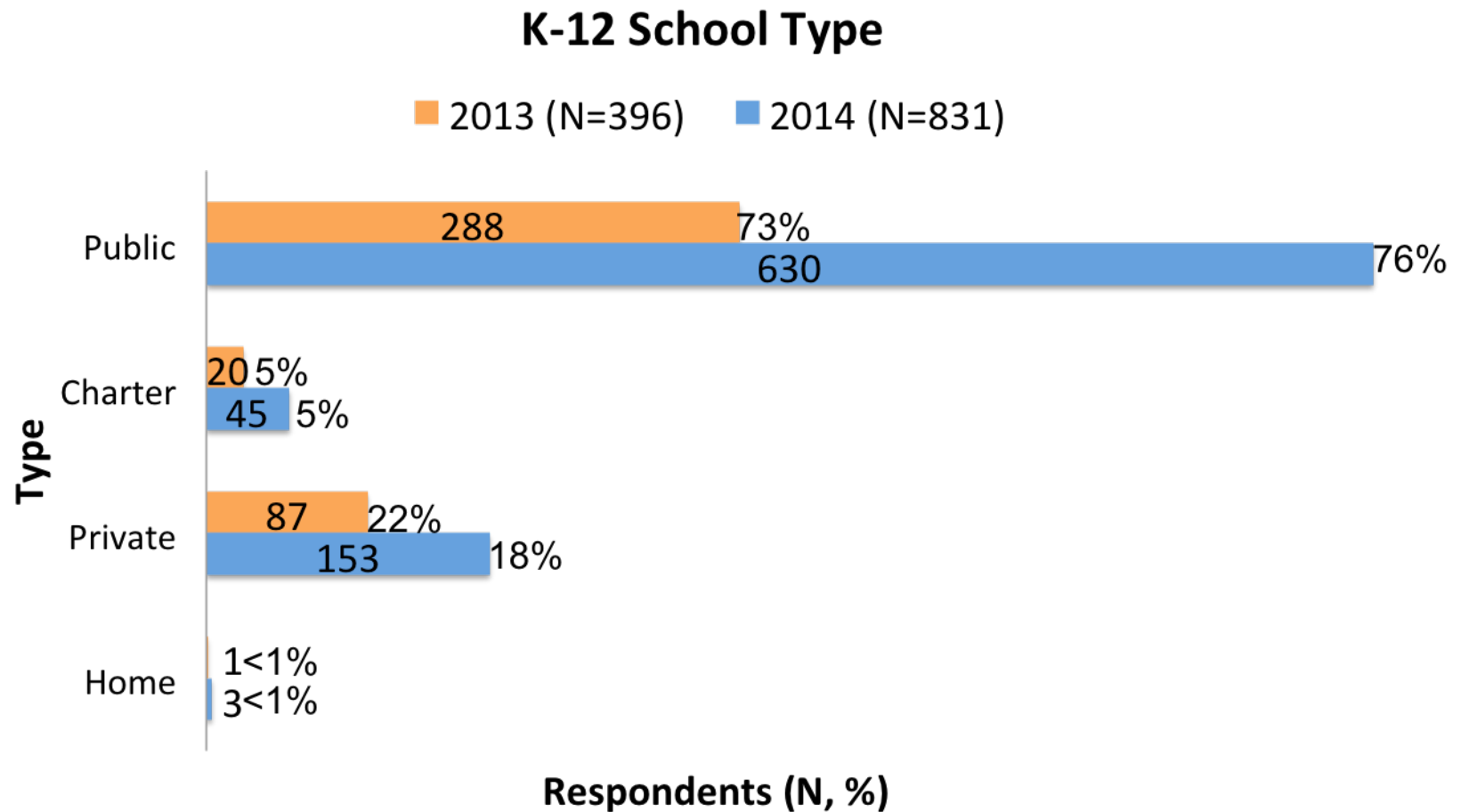


ORG Respondent Characteristics

Type of Organization



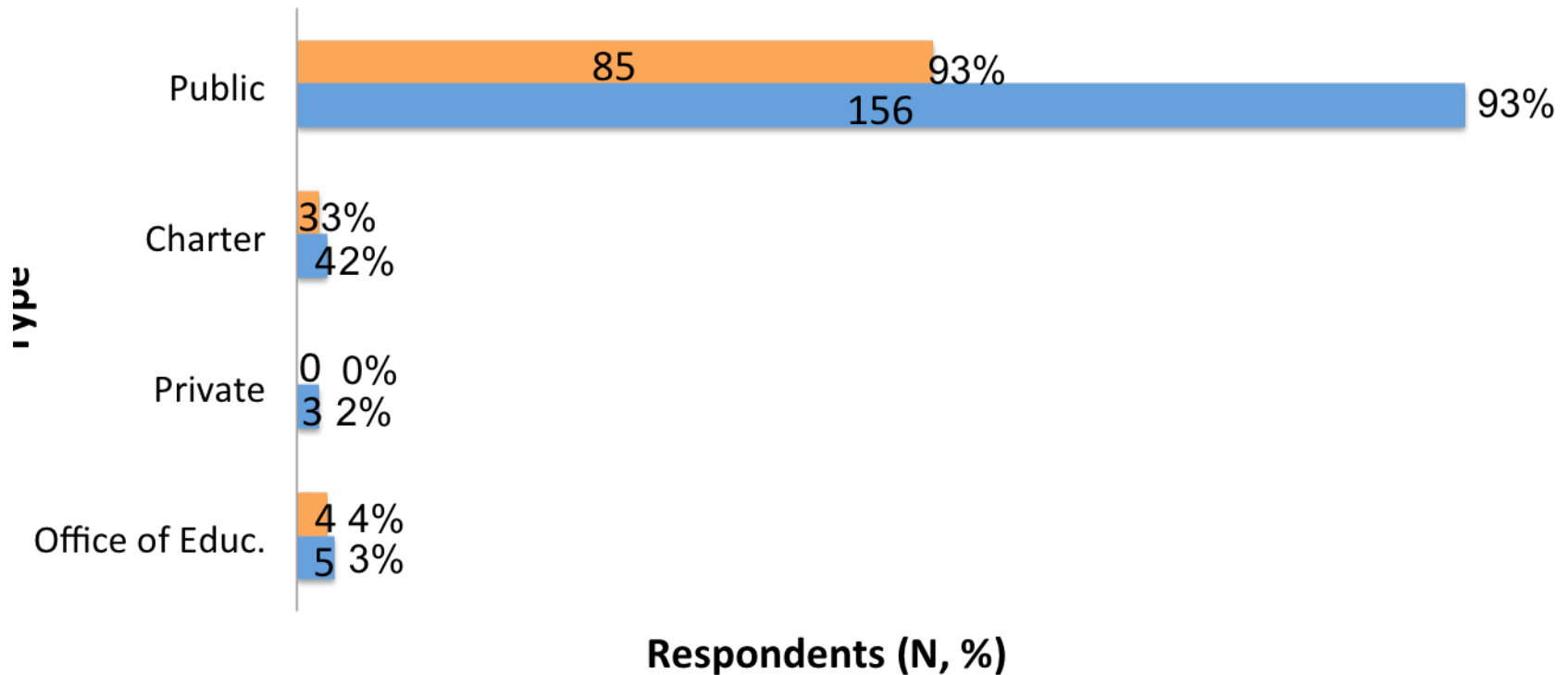
EDU Respondent Characteristics



EDU Respondent Characteristics

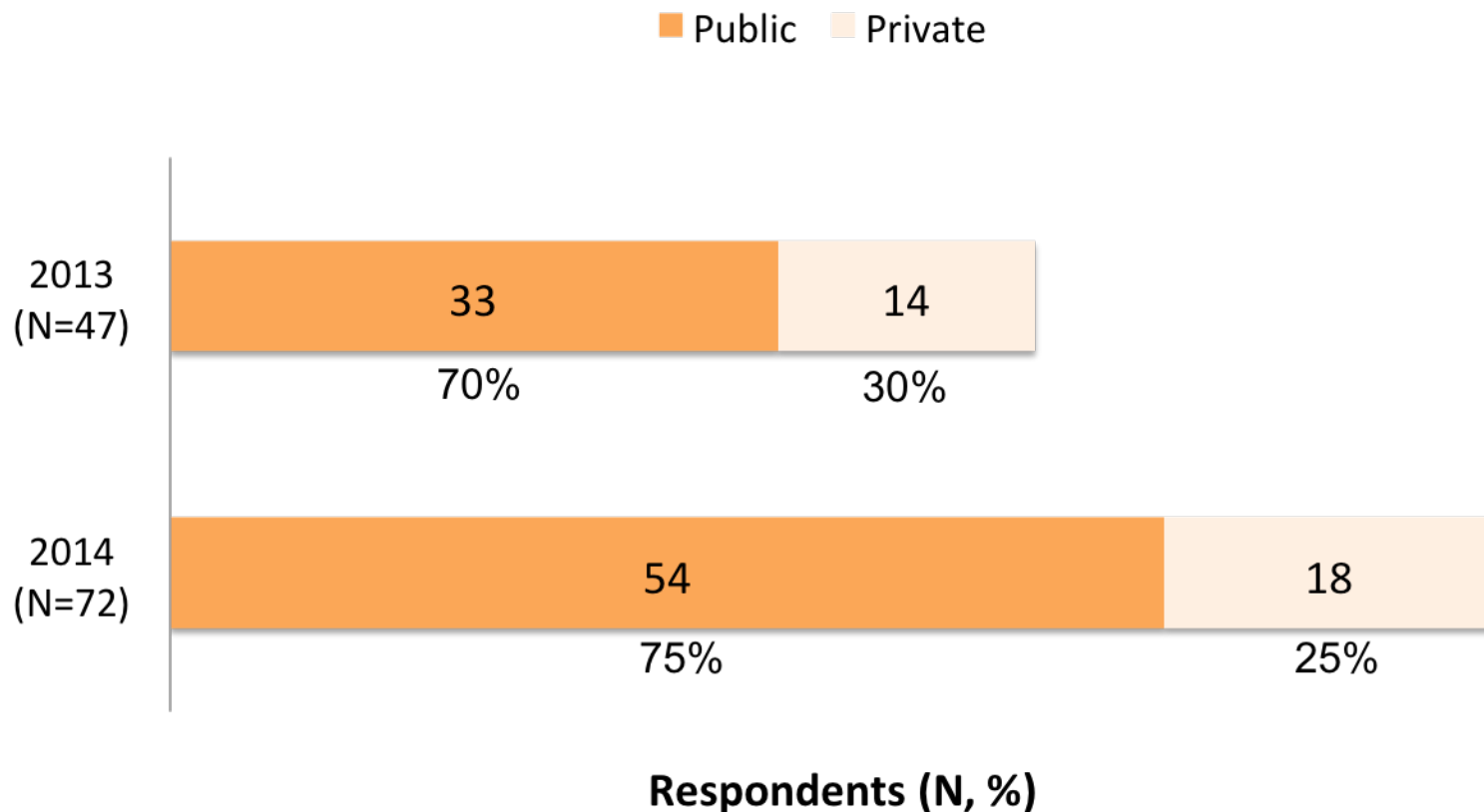
K-12 District/Group of Schools Type

2013 (N=92) 2014 (N=168)

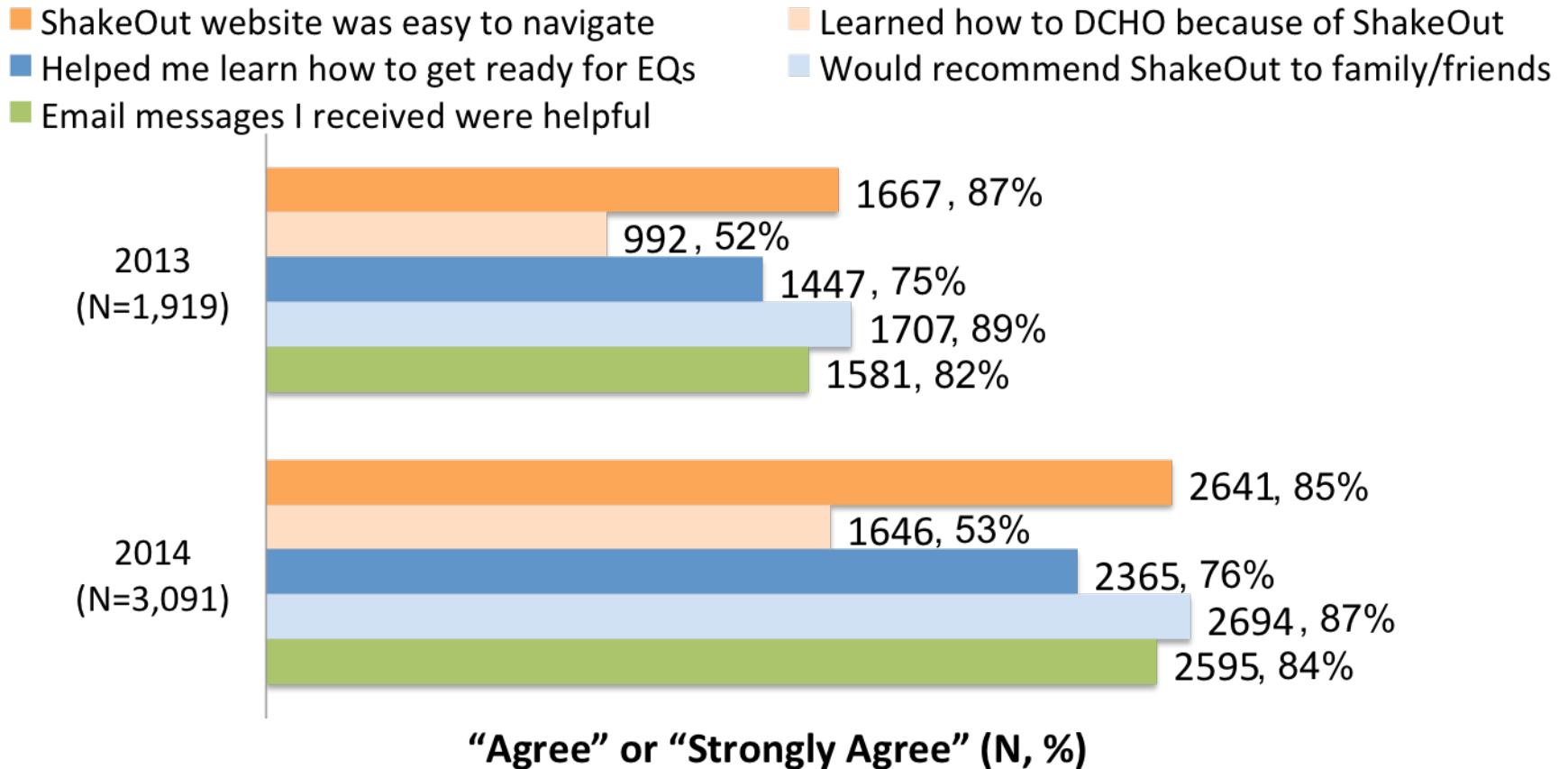


EDU Respondent Characteristics

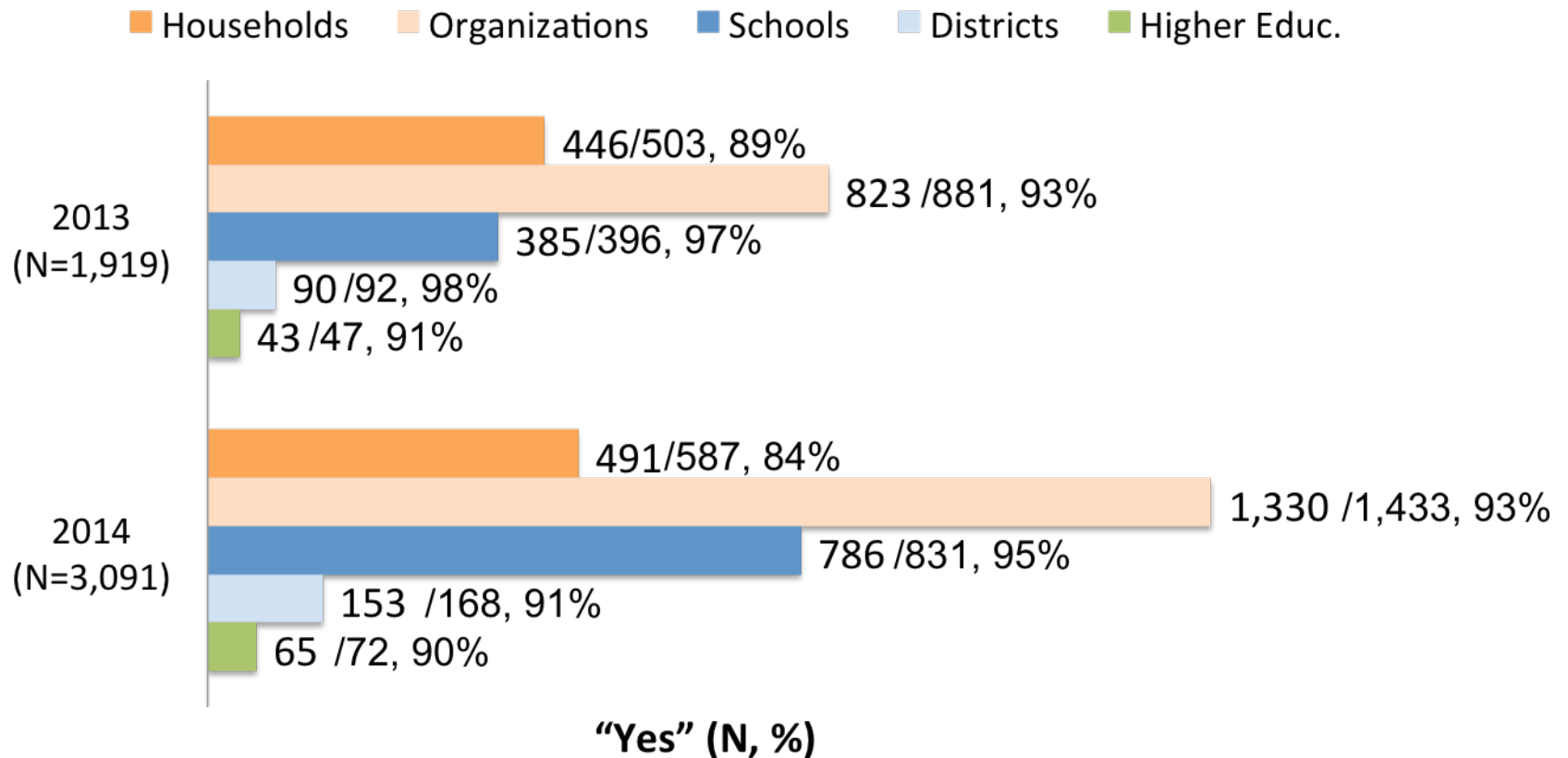
Type of Higher Education Institution



Participant Satisfaction



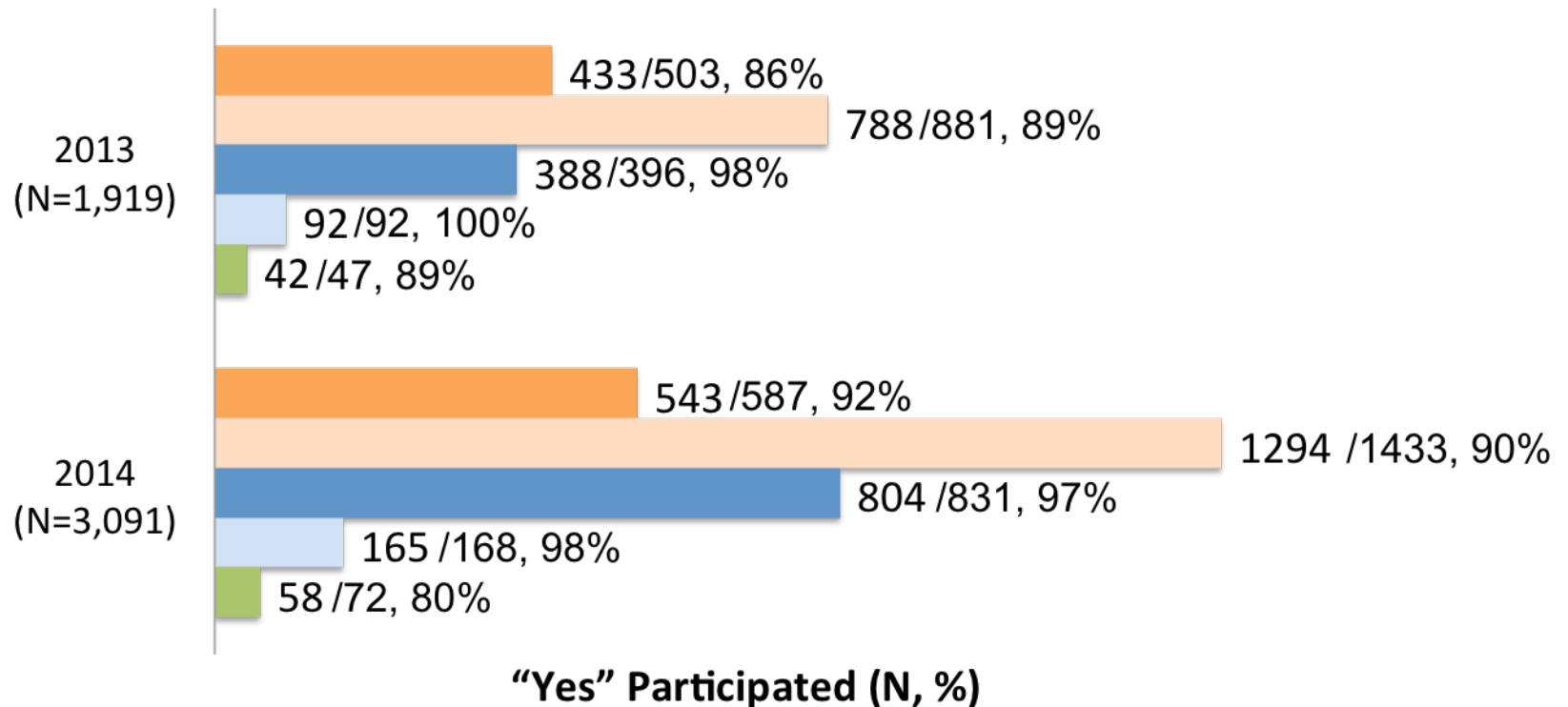
Plans for Future Participation



Fidelity

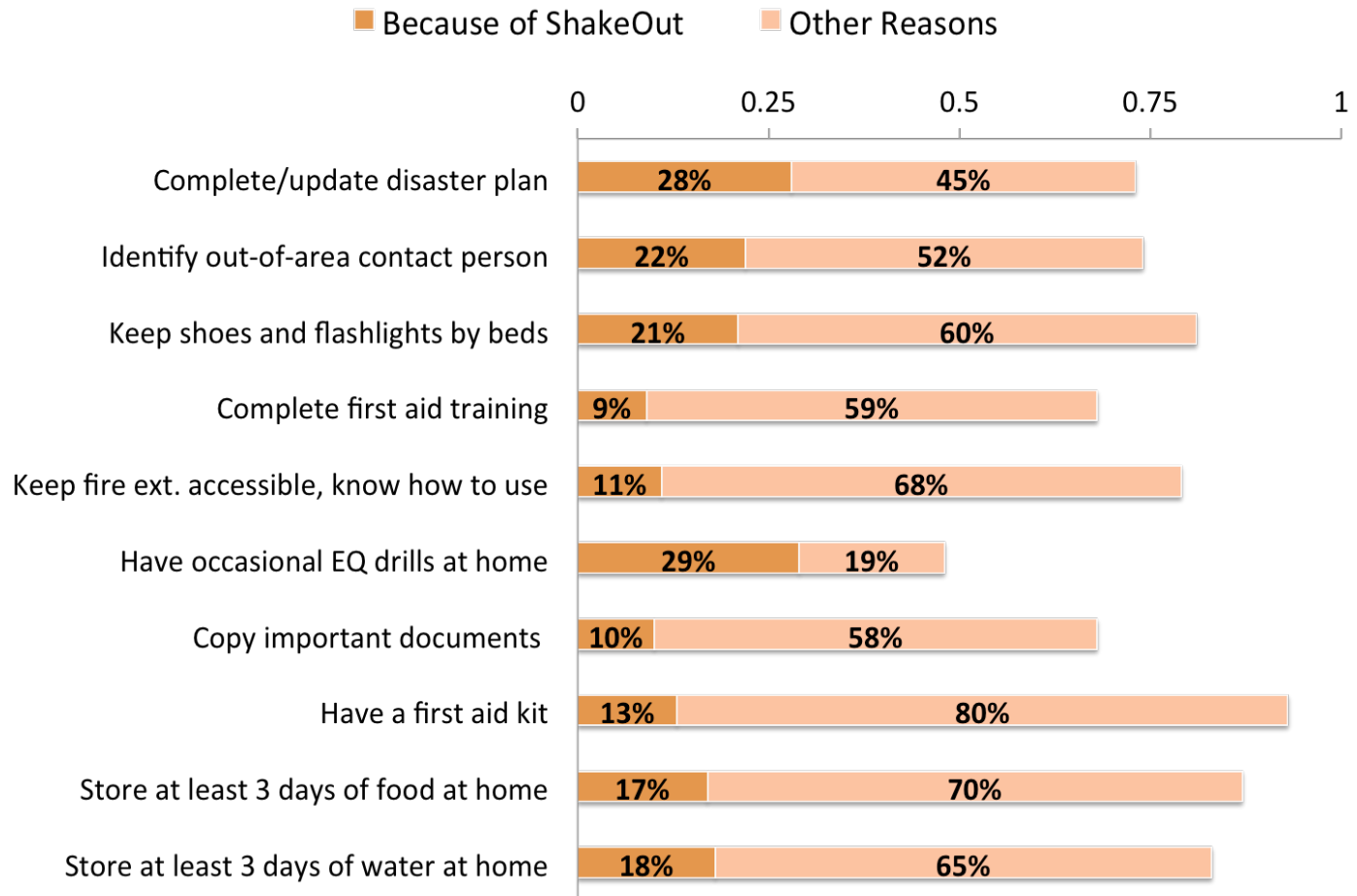
Practiced Drop, Cover, Hold On During ShakeOut Drill

Households Organizations Schools Districts Higher Educ.



Outcomes

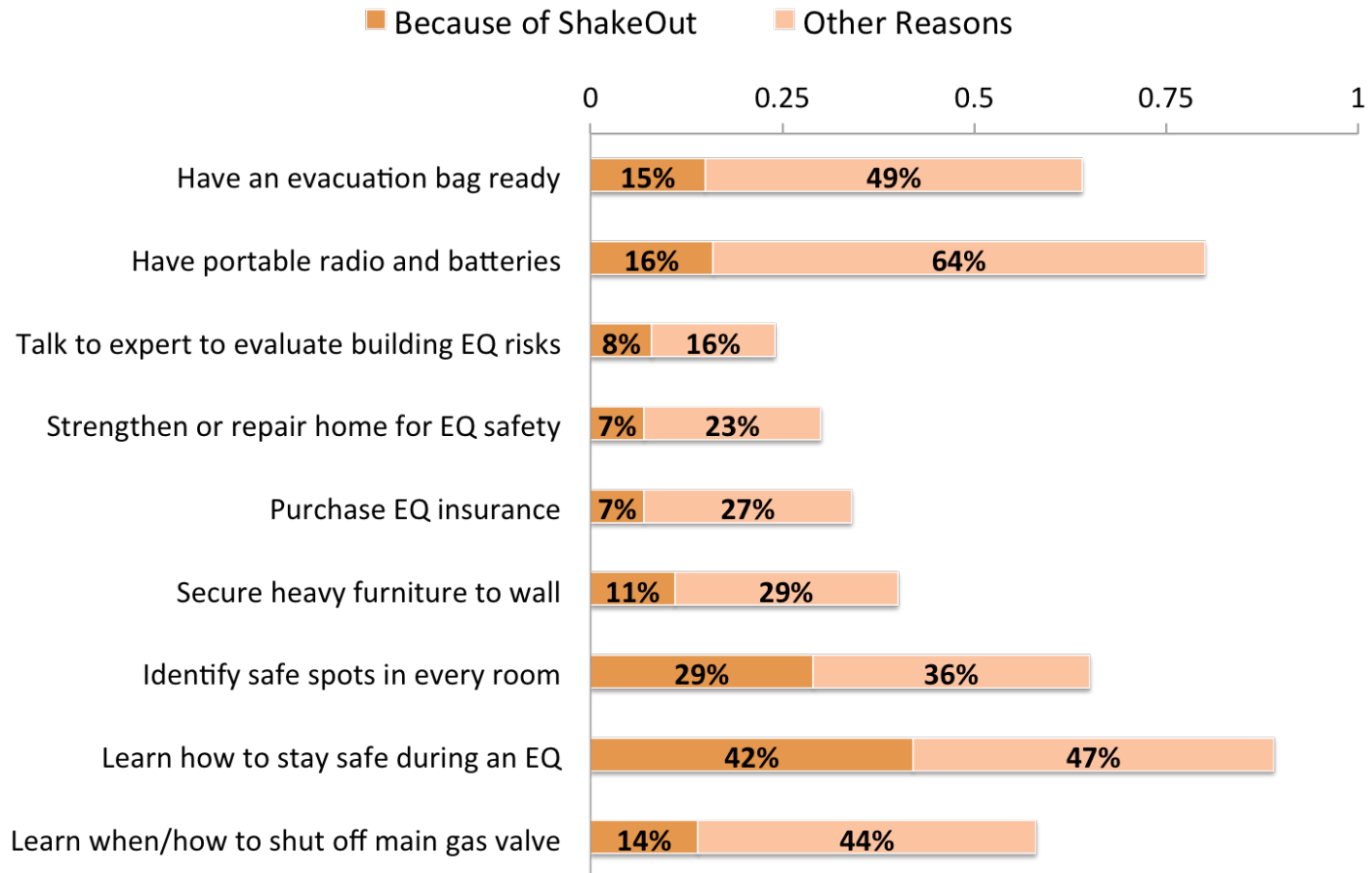
2014 Household Preparedness Actions Taken – Part 1



Respondents who Took Preparedness Action (% , N=587)

Outcomes

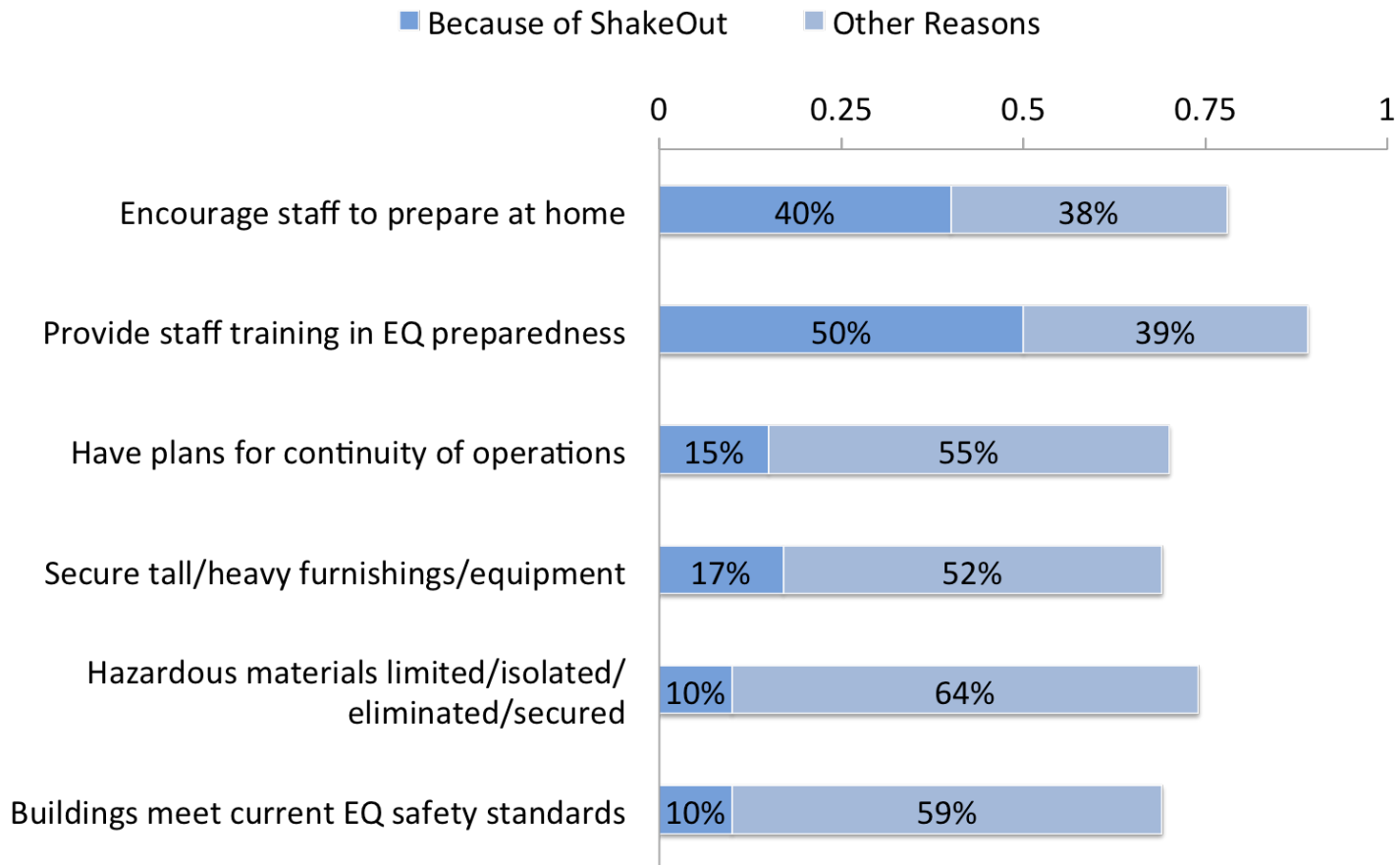
2014 Household Preparedness Actions Taken – Part 2



Respondents who Took Preparedness Action (% , N=587)

Outcomes

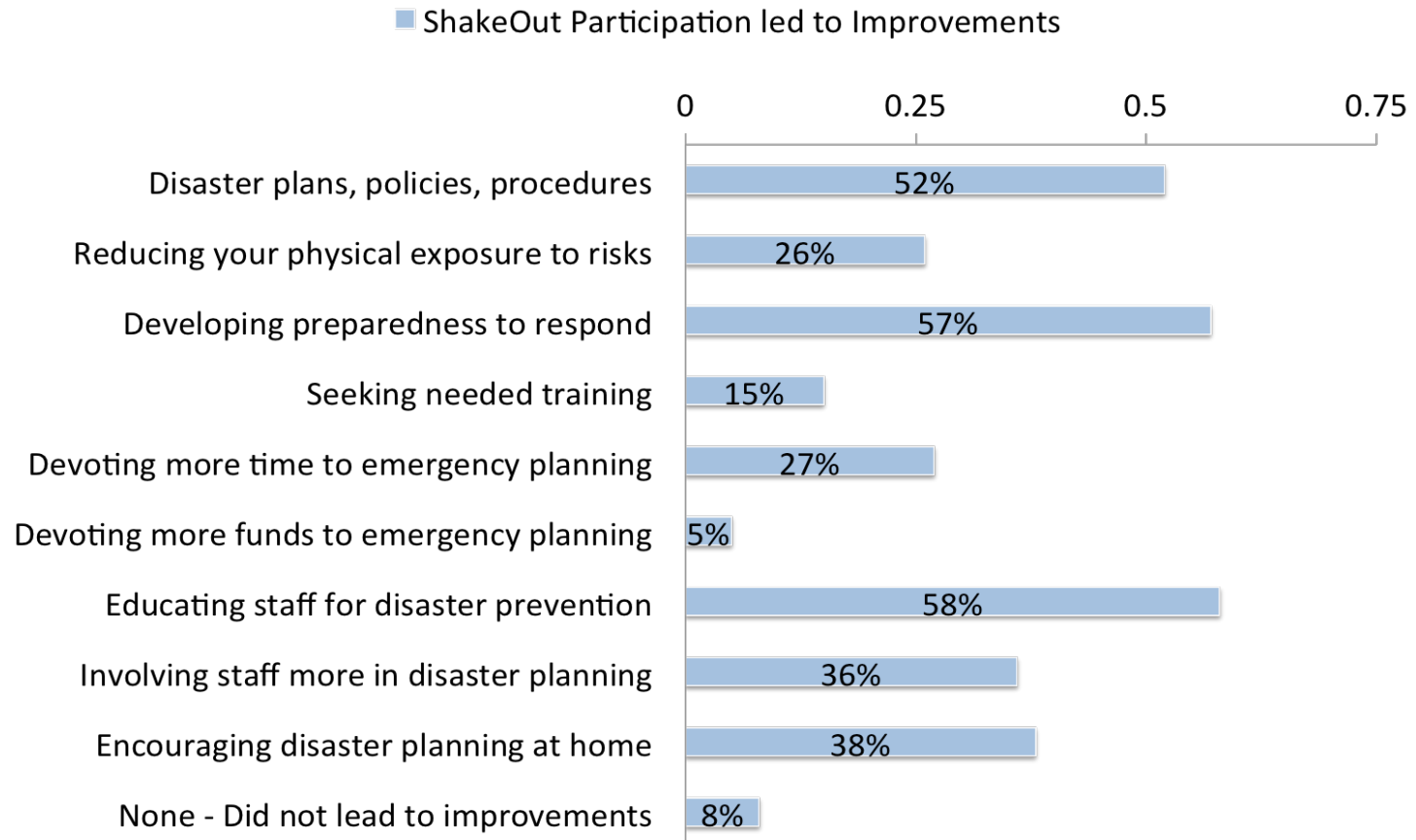
2014 Organization and Education Preparedness Actions Taken



Preparedness Actions Taken by Institution to Prepare for EQs (% , N=2,504)

Outcomes

2014 Organization and Education Improvements Made



Improvements Made (% , N=2,504)

Open-Ended Questions



What motivated you (or your organization) to participate in this year's ShakeOut drill?

Please tell us how your ShakeOut participation has benefitted you, your household, or your organization. If it has not been beneficial, please let us know what has not worked.

What would make the ShakeOut better in the future?

Qualitative Results

Q1 Themes: What motivated you (or your organization) to participate in this year's ShakeOut drill?

Individuals, Households, Organizations	Schools and School Districts	Higher Education
<ul style="list-style-type: none">• Media reminders• Being encouraged or required• Prior earthquakes• Professional responsibility (e.g., as a CERT instructor)• Living in a high-risk area• Safety/peace of mind	<ul style="list-style-type: none">• Media reminders• Being encouraged or required• Recent earthquakes• Responsibility to protect students/children• Located in a high-risk area• Community experience• Prior drill experience	<ul style="list-style-type: none">• Media reminders• Being encouraged or required• Recent earthquakes• Responsibility to protect students and staff• Located in a high-risk area• Community experience• Prior drill experience• Learn what to do

Media reminders include official ShakeOut emails.

Qualitative Results

Q2 Themes: Please tell us how your ShakeOut participation has benefitted you, your household, or your organization. If it has not been beneficial, please let us know what has not worked.

Individuals, Households, Organizations	Schools and School Districts	Higher Education
<u>Benefit</u> <ul style="list-style-type: none"> • Increased awareness • Reminder of need to prepare • Boosted confidence • Increased neighborhood readiness • Motivated preparedness action • Reinforced actions already taken • Identified barriers to safety/preparedness <u>No benefit</u> <ul style="list-style-type: none"> • Too complicated • Too afraid • Not at risk 	<u>Benefit</u> <ul style="list-style-type: none"> • Increased awareness • Increased knowledge • Helped us evaluate preparedness • Validated importance of earthquake safety • Motivated preparedness action • Reinforced actions already taken • Provided resources • Created teaching opportunity 	<u>Benefit</u> <ul style="list-style-type: none"> • Increased awareness • Increased knowledge • Helped us evaluate preparedness • Validated importance of earthquake safety • Motivated preparedness action • Provided resources <u>Barriers</u> <ul style="list-style-type: none"> • Poor engagement • Students don't want to DCH • Weak institutional support

Qualitative Results

Q3 Themes: What would make the shakeout better in the future?

Individuals, Households, Organizations	Schools and School Districts	Higher Education
<ul style="list-style-type: none">• Nothing• Improved sound• More support/coordination• Improved communication• Better/different information• Shared successes• Improved evaluation• Earlier advertising/promotion• Other	<ul style="list-style-type: none">• Even more community support• Even more internal support• Improved sound/video• More/better guidance	<ul style="list-style-type: none">• More internal cooperation• New ways to engage campus• Better video, sound simulation• More/better guidance• Cellular alerts• Data to support importance

Qualitative Findings

Overwhelmingly positive feedback from respondents representing all participation categories.



Schools wanted more internal support and “buy-in” from leaders and faculty, and more tools to help engage students.



Households suggested better communication and engagement opportunities specifically for households.



All registration categories suggested ways to improve drill sound effects and other materials on the ShakeOut website.

What motivated you to participate in this year's ShakeOut drill?

(Education and other Organizations)

We had a good experience with the drill last year.

We did last year. It is a good yearly practice that aligns with our emergency plan.

[To] better our preparedness and take advantage of the media and mass information being distributed.

It is tradition and our students love it.



What motivated you to participate in this year's ShakeOut drill?

(Individuals/Households)

I want to be prepared more so now that I am a mother and have an elderly mother.

Teaching my children to be prepared is important.

Practice so that my son will have an idea on what to do if there is an earthquake.

I want to be able to help others and keep my family safe.

How has participation benefitted you?

Our family knows our earthquake plan now, thanks to the shakeout! I have also encouraged our work office to participate and we did participate.

It organized what needed to be done and how we needed to be prepared. This was a perfect starting point for us.

We are more aware of how to prepare and have taken steps to have food, water, and supplies on hand, and have ensured we have adequate insurance.

We found out that we need to separate 6th grade students from preschool while exiting the classroom building.

How has participation benefitted you?

I have been able to point to the widespread implementation of the ShakeOut throughout our state and our nation to show our local regional leaders that we need to do more to become prepared. Many local emergency agencies had never heard of the ShakeOut five years ago, and once I alerted them to it and showed what our district does to become prepared, there was greater appreciation for the need for community-wide preparedness for earthquakes and other disasters.

What would make the ShakeOut better?

Don't make me hunt for the links to the sound files on ShakeOut day. On that day, at the appointed time, the links ought to be front and centre on the main ShakeOut page.

Conclusions

High quality

High client
satisfaction

High fidelity

Future
improvements

Limitations

Respondents are not representative of all registrants, nor of all individuals exposed to the ShakeOut.

Respondent self-selection likely resulted in overrepresentation of more motivated individuals.

However...

Research has shown that observing others provides critical cues to action, which motivate preparedness.

ShakeOut drills equip engaged individuals to more effectively influence others.

Future Research



Random
sample of
registrants

Examine trends
across years

Explore
diffusion across
registrant
categories

Repeat the
statewide
household
survey

Purpose

1

Describe Great ShakeOut Earthquake Drill activities designed to motivate preparedness actions before, and increase protective actions during, an earthquake

2

Present program evaluation results

3

Discuss the future role of ShakeOut drills in relation to earthquake early warnings

Implications for Earthquake Early Warning

EEW will provide cues
to take protective
actions learned through
ShakeOut participation

Whole community
engagement can
motivate broader
participation

EEW messaging can
motivate broader
preparedness

Using ShakeOut
messaging streams to
educate about EEW can
accelerate adoption

Future Program Activities

Improve
"sound"
messaging

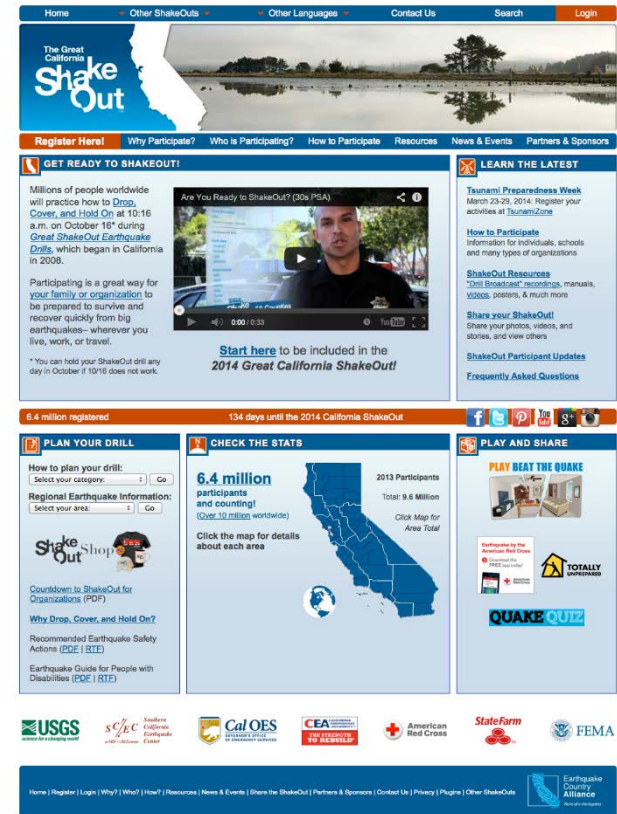
Increase
participant
diversity

Annual EEW
drills in
connection
with ShakeOut

Expanded
mitigation
messaging

Register and Spread the Word

- Register your ShakeOut Drill at Shakeout.Org
- Join the discussion:
 - Facebook.com/greatshakeout
 - Twitter.com/shakeout (#shakeout)
- Download and distribute ShakeOut resources: drill manuals, flyers, posters, videos, and much more.
- Questions? info@shakeout.org



Join Us in the World's Largest Earthquake Drill.
Register Now at www.ShakeOut.org

**Shake
Out**

Thank You!

benthien@usc.edu

mwood@fullerton.edu

Kate.Long@CalOES.ca.gov



CALIFORNIA STATE UNIVERSITY
FULLERTONTM

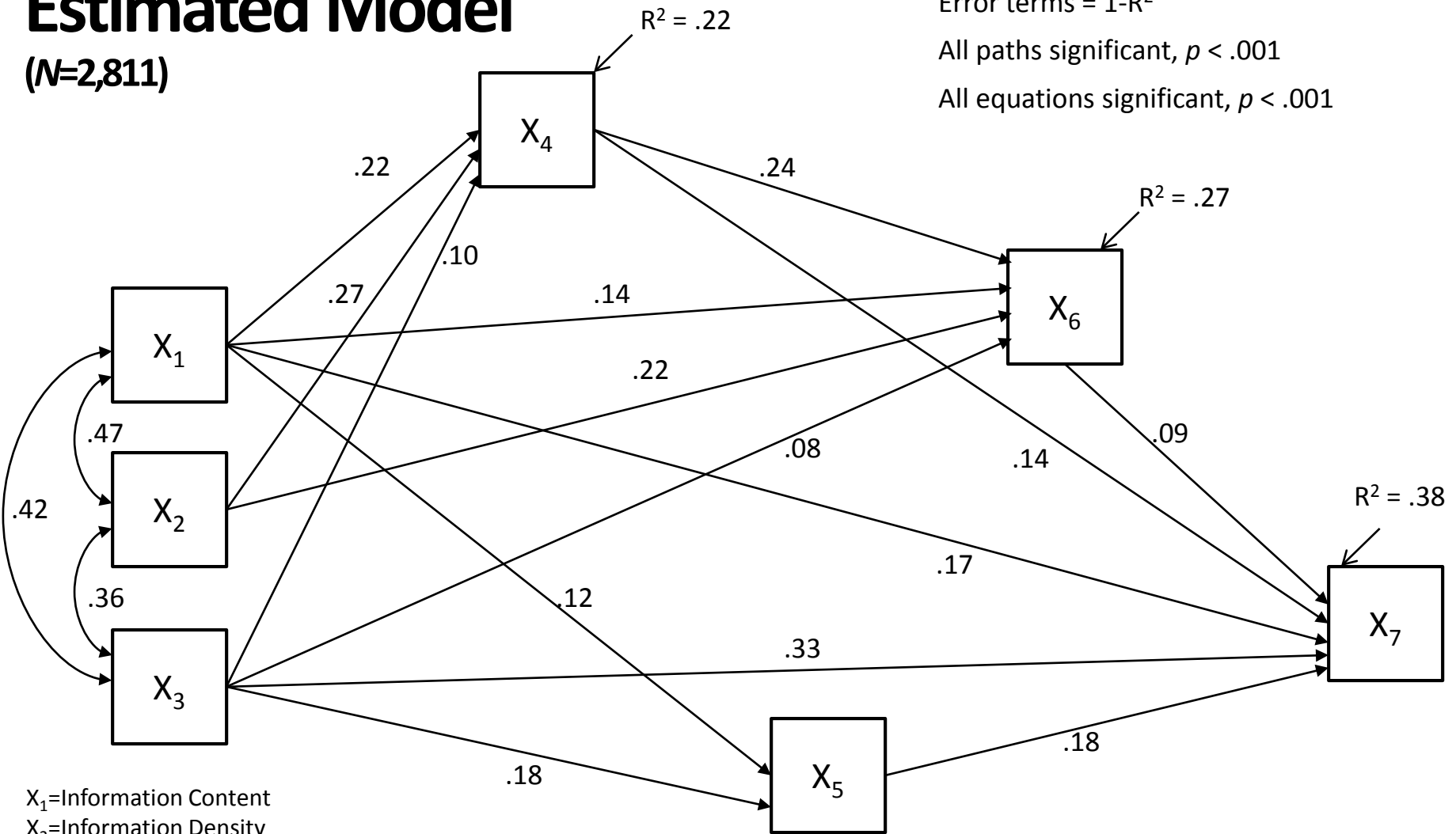
Estimated Model

(N=2,811)

Error terms = $1 - R^2$

All paths significant, $p < .001$

All equations significant, $p < .001$



X₁=Information Content
 X₂=Information Density
 X₃=Information Observed (cues)
 X₄=Knowledge
 X₅=Perceived Effectiveness
 X₆=Information Seeking (milling)
 X₇=Preparedness Actions

Satorra-Bentler $\chi^2 = 8.58$, $df = 4$, $p = .07$
 RMSEA = 0.020, 90% CI (.000 - .039)
 CFI = 0.998