## **Text Message** Surveys in the U.S.

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## Outline

- Basic Overview of SMS?
- What do we know already about using SMS for Surveys in the U.S.?
- Detailed contemporary example of using SMS for survey data collection
- What is the environment for SMS now in the U.S. (TCPA)
- Practical Tips for Using SMS for Survey Research
- Resources for deploying SMS Studies today



#### SMS = Short Message Service

- Limited to 70 -160 Characters in the U.S. (depending on the character encoding used)
  - Curious story about the origins of this limit is here: <u>http://bit.ly/2l9jx3d</u>
- Limited to 140 Characters in Canada.
- Primarily for transmitting text and can be in the form of url links.
- SMS sent in languages that use Unicode Transformation Format (UTF) encoding such as Chinese, Arabic, are limited to a max of 70 characters.
- SMS replies can be sent to regular cell phones or to "short codes" which are 5 or 6 digit shortened phone numbers.

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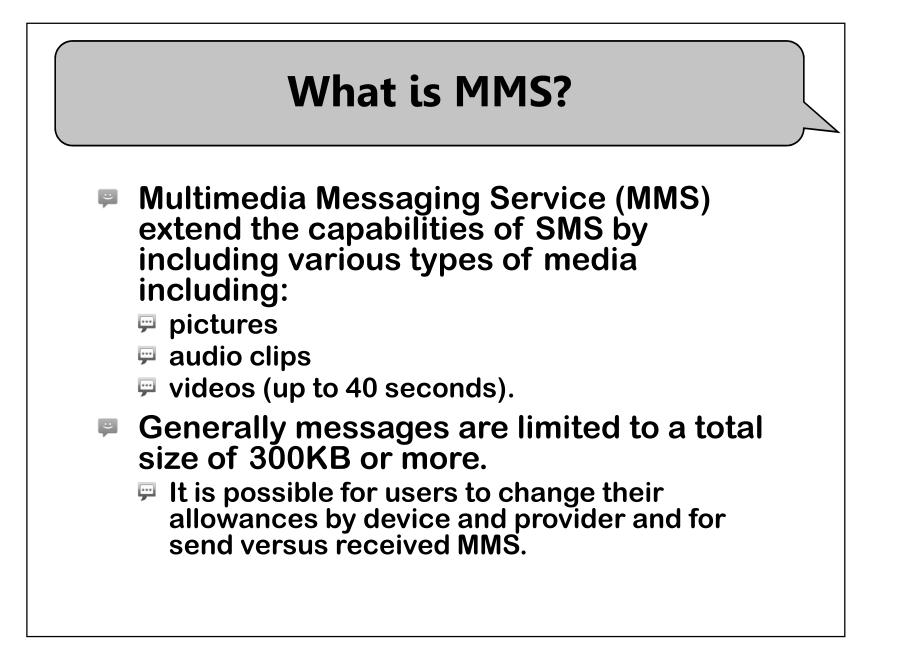
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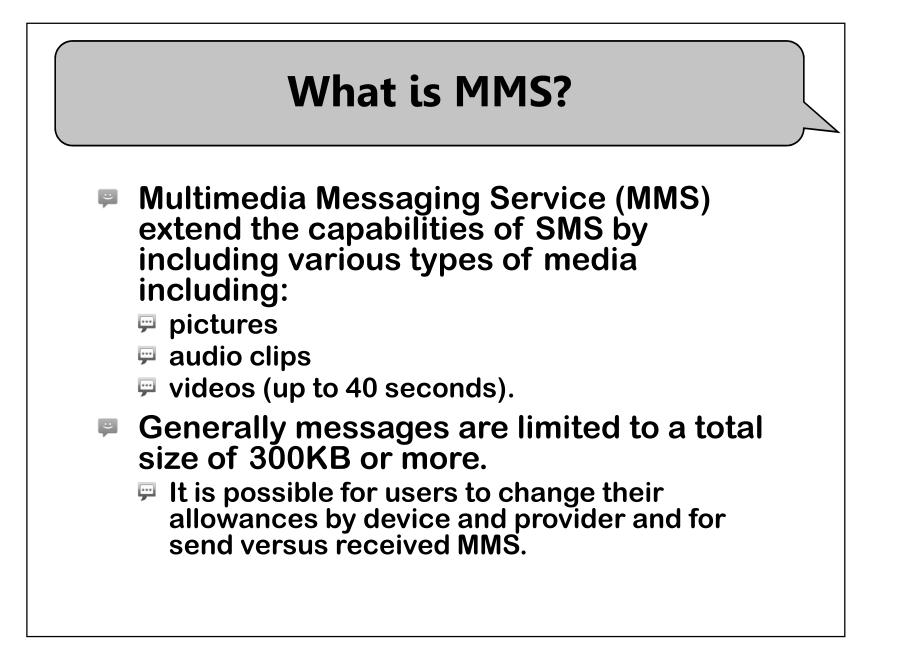


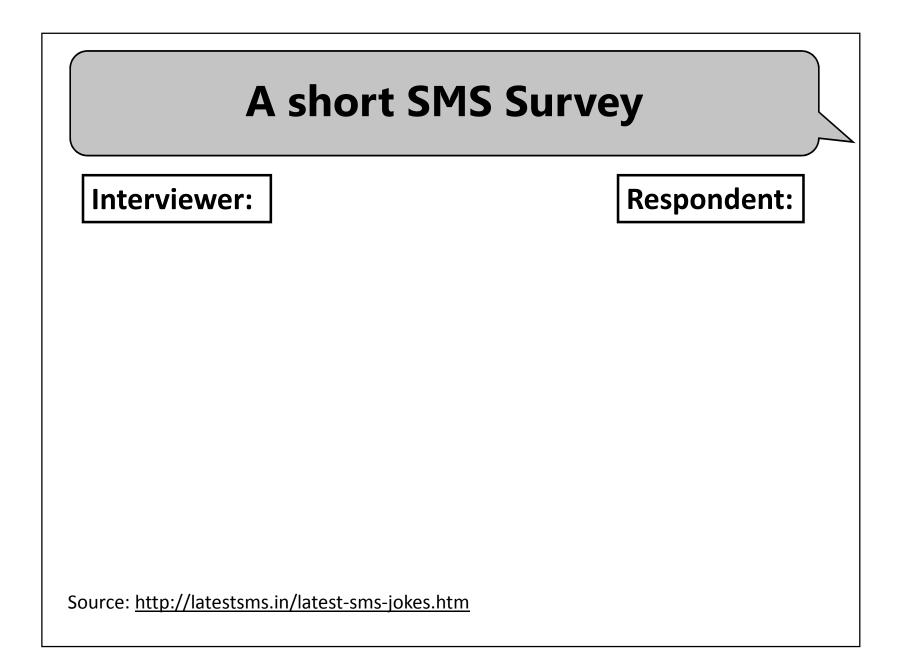
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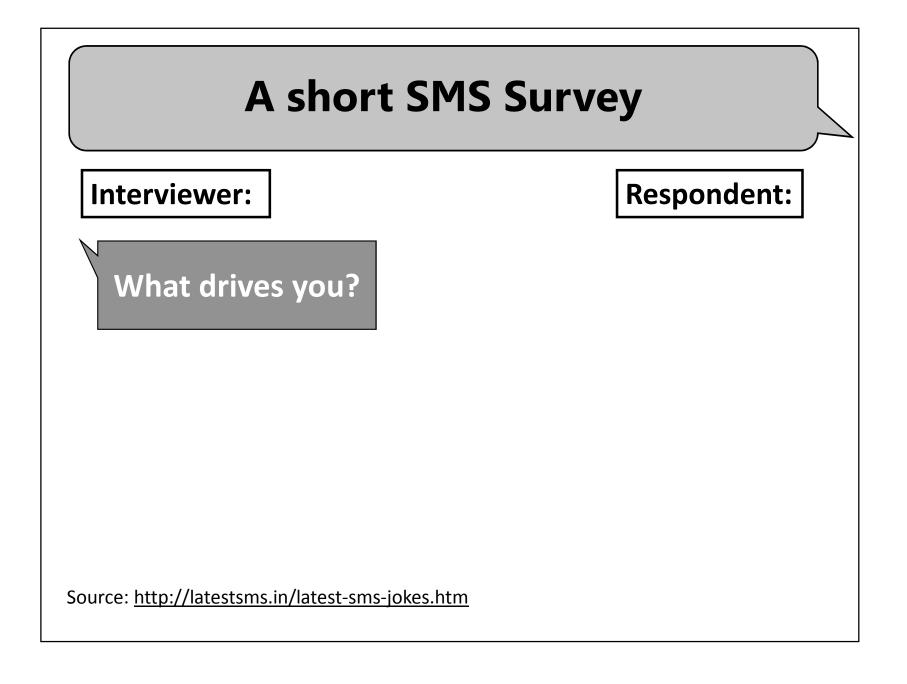
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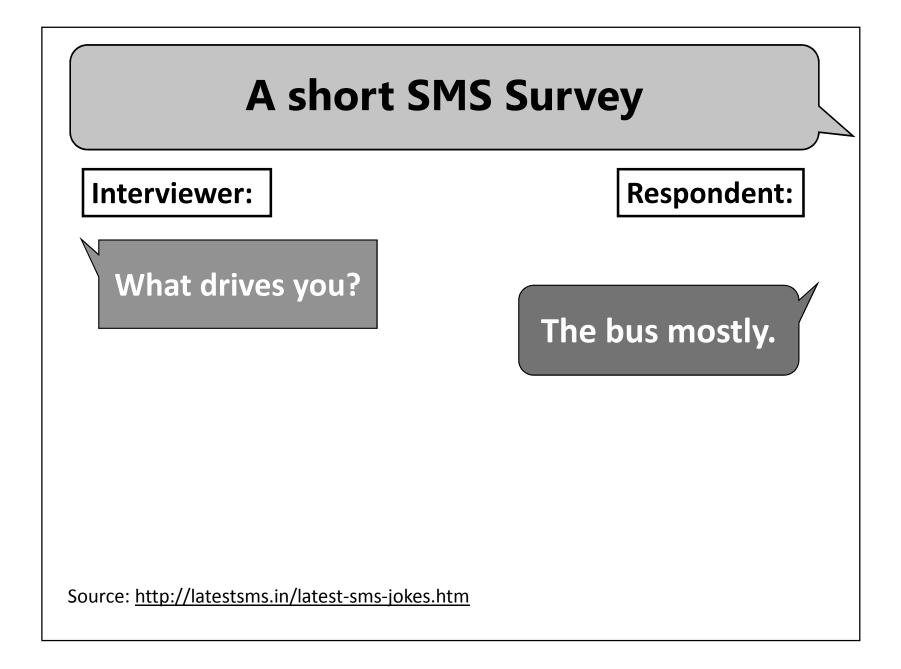
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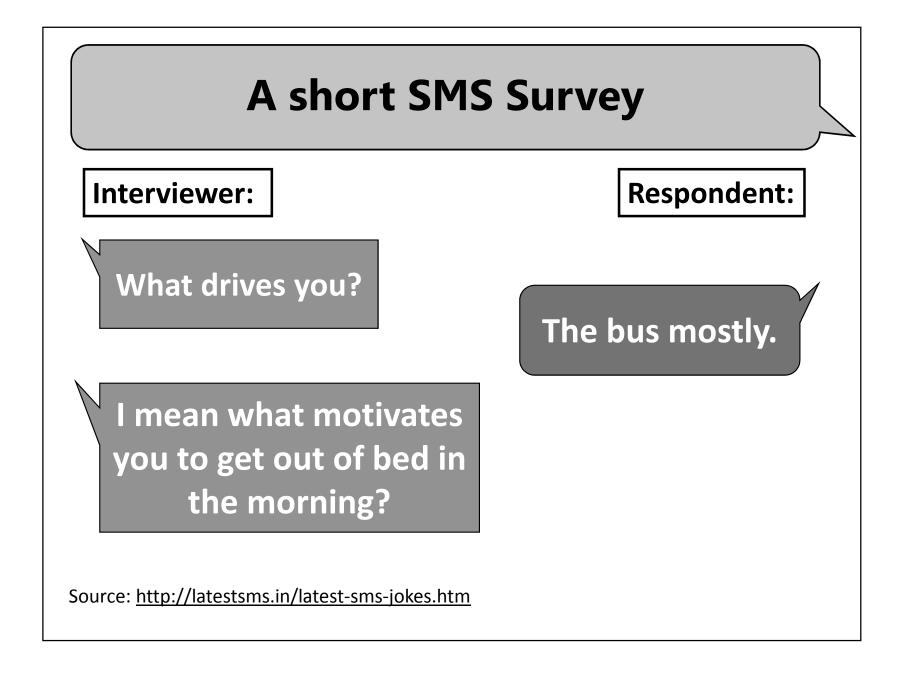


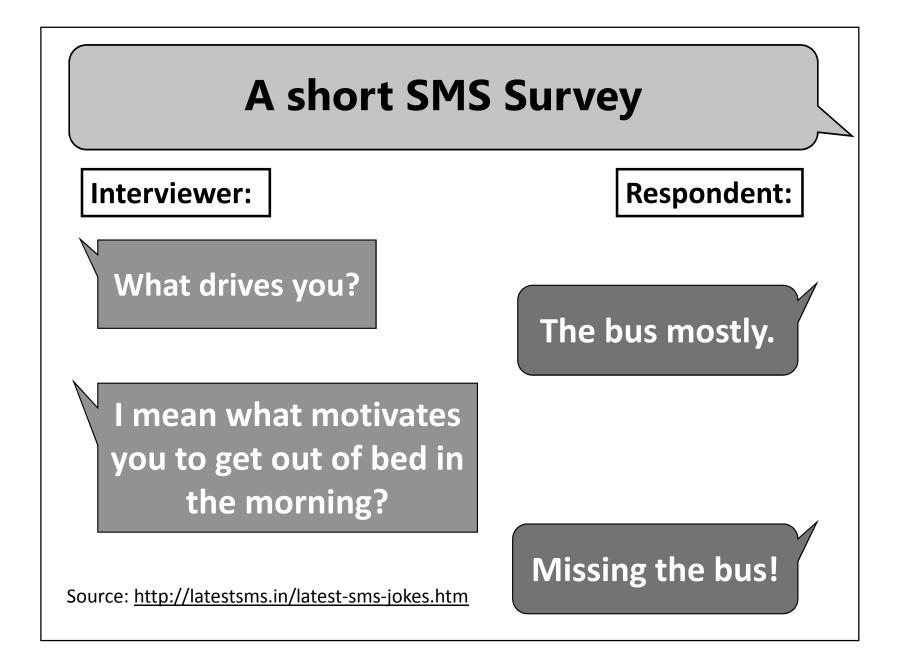












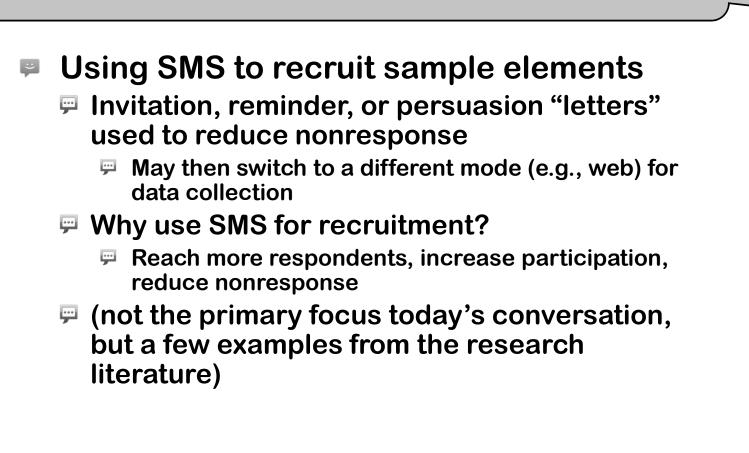


- Pre-survey uses
  - Recruitment

#### Data Collection uses

- Question and answer surveys
  - Manual (Human interviewer)
  - Automated (Computer running interview)
- 🖻 In situ measurement
  - Randomly sampled moments
  - Purposively sampled moments
  - Respondent selected moments
- Briefly describe each of these uses and give a few examples from the research literature

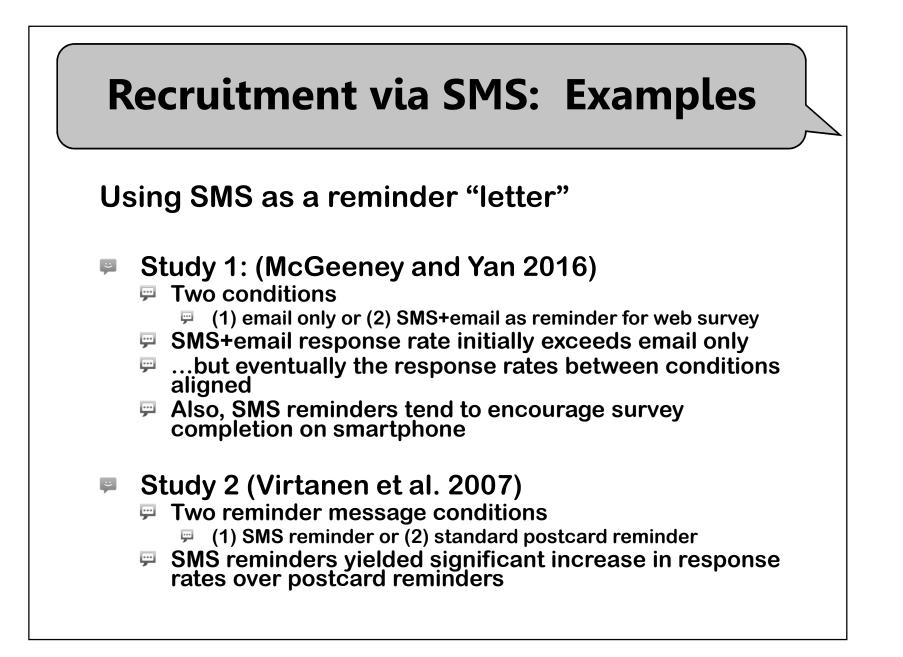


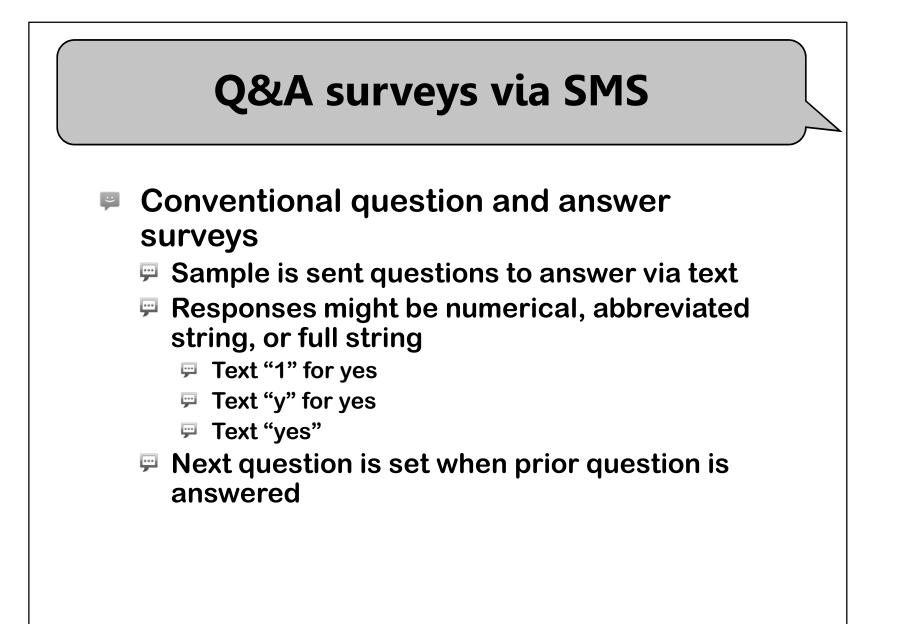


## **Recruitment via SMS: Examples**

#### Using SMS as an invitation or advance "letter"

- Study 1 (Brick et al. 2007)
  - Cell RDD sample, randomly assigned to two conditions
    - = (1) SMS advance message prior to CATI, (2) no SMS message
  - No differences in screener rate across SMS condition.
- Study 2 (Steeh, Buskirk, and Callegaro 2007)
  - Cell RDD sample, randomly assigned to three conditions
    - = (1) voice only, (2) text only, (3) text/voice
  - SMS invitation did *not* make contacting respondents easier, but
    - Fewer undetermined cases, refusals in text/voice compared to voice only
    - SMS delivery confirmations predict eligibility and working number status
- Study 3 (Bosnjack et al. 2008)
  - 3-wave panel study; 2x3 factorial design
  - Three pre-notification conditions
    - 9 (1) SMS, (2) email, or (3) none
  - **Two invitation conditions** 
    - 🖻 (1) SMS or (2) email
  - SMS pre-notification and email invitation best, especially in combination





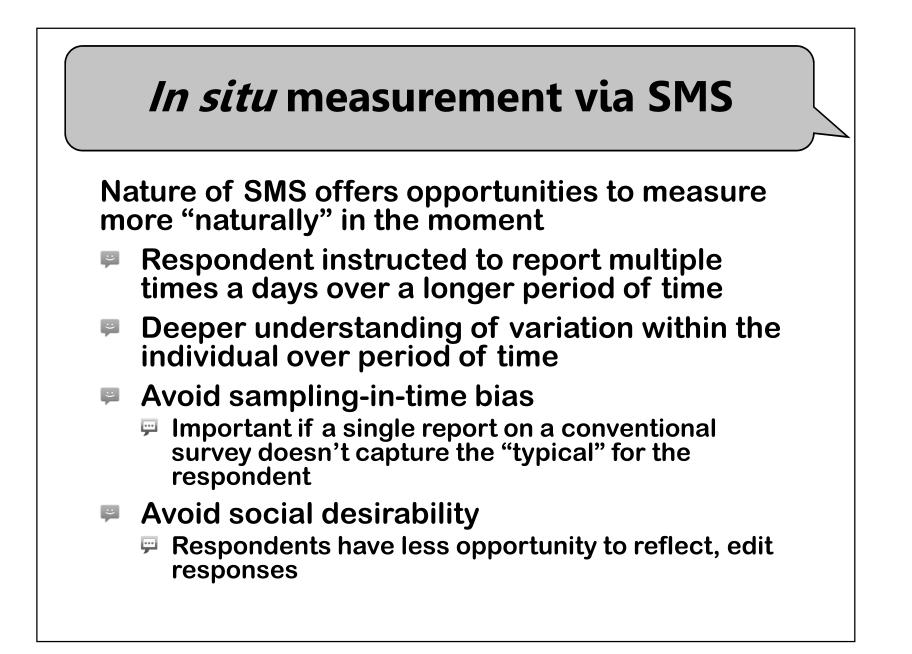
## **Q&A surveys via SMS: Examples**

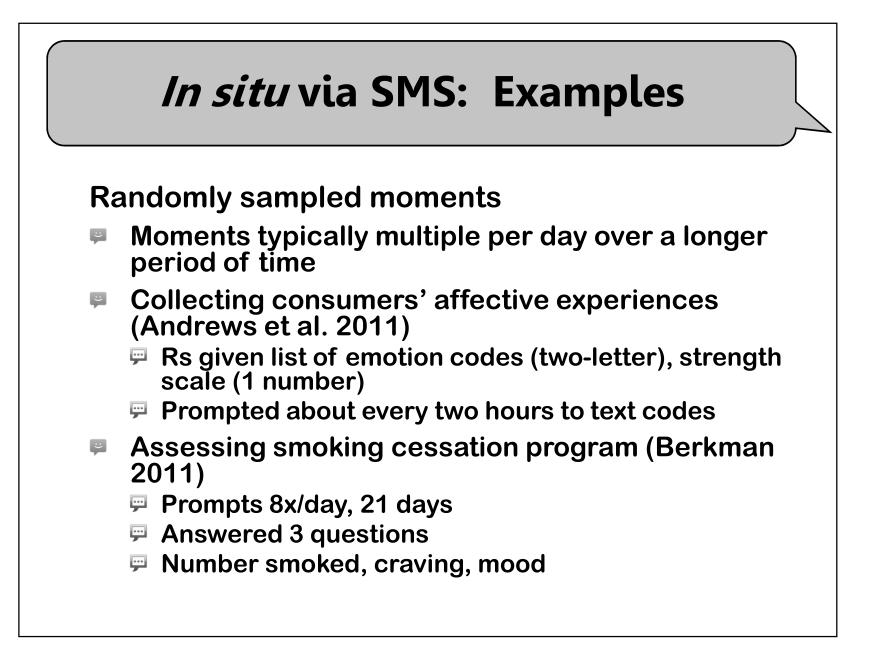
#### **Conventional question and answer surveys**

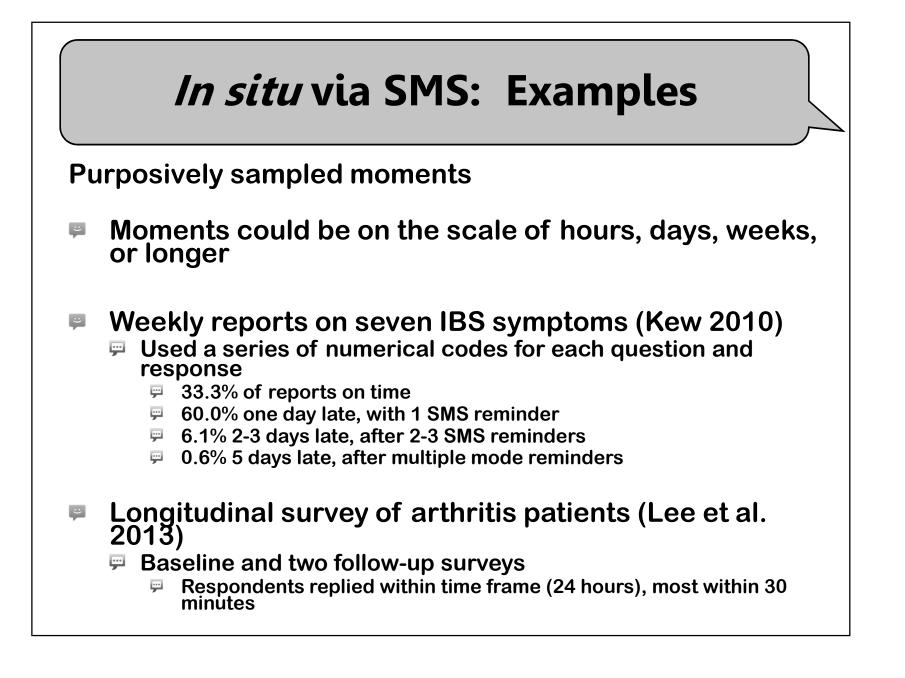
- Study 1 (Schober et al. 2015)
  - Two conditions:
    - Questions sent by human (analogous to CATI)
    - Questions sent by computer (analogous to IVR)
  - Findings
    - Human interviewer achieves higher response rate than automated system
    - SMS takes longer
      - Duration between question and answer longer given the nature of SMS as asynchronous communication (unlike phone)

#### Study 2 (West et al. 2015)

- Three conditions:
  - 🤛 (1) Phone interview
  - 9 (2) Human SMS interview, all questions in one day
  - 🤛 (3) Human SMS interview, one question per day
- **Findings** 
  - **SMS** increases disclosure of sensitive information relative to phone
  - Condition (3) yielded lower response rate (but not nonresponse bias)









#### **Respondent selected moments**

- Major activity reports (Brenner and DeLamater 2013,14)
  - After completing web survey, student respondents assigned to either additional web survey questions or 5-day SMS procedure
  - Asked to report on all major activities of the day
  - Key measures were validated against records; SMS more valid than web survey
    - Rs averaged 22 texted activities
    - Rs marked 21 percent of activities as late
    - About 30 percent skipped a day (usually Sunday)



#### **Respondent selected moments**

- Major activity reports, follow up study (Brenner and DeLamater 2016)
  - Respondents completed both web and SMS measures
  - Two conditions, randomly assigned after web survey but before SMS: (1) told the purpose of the study (measuring exercise), or (2) not told
  - Key measures were validated against records; SMS more valid than web survey
  - Respondents told purpose of the study *changed* their behavior during SMS component of the study

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- Consent and the ability to opt out of future SMS communications is paramount – even for survey research purposes according to the TCPA.
- Legal and industry experts suggest including some type of message that alerts respondents of future SMS communications that could be automated.

- Based on the limited amount of research for using SMS for survey research within the U.S. we have a few practical tips for trying this out for yourselves.
- 1. Determine how you will use SMS in your study hybrid?

#### Practical Tips for using SMS for Survey Research in the U.S.

- Based on the small body of emerging of research for using SMS for survey research within the U.S. we have a few practical tips for trying this out for yourselves.
- 1. Determine how you will use SMS in your study
  - As a survey invitation tool?
  - As a reminder communication tool?
  - As a survey data collection tool?
  - Some hybrid?

#### Practical Tips for using SMS for Survey Research in the U.S.

2. Be mindful of how the Telephone Consumer Protection Act of 1991 (TCPA) and the most recent clarifications to the law can impact your survey process with regard to SMS.

Special thanks to AAPOR's TCPA Guru Bob Davis for his insights and comments here.

- Text messages are considered "calls" under the TCPA.
- The law is constantly changing and being re-interpreted through actions from Congress, the FCC, and the Court System. Be sure to continually re-evaluate your SMS approach.
- Consent and the ability to opt out of future SMS communications is paramount – even for survey research purposes according to the TCPA.
- Consent varies by purpose of the text. But use of bulk communication Prior written consent is required for telemarketing related texts, generally speaking.
  - Consent can be oral for non-telemarketing purposes.
  - Peer-to-peer texts seem to fall in a grey area in terms of prior consent with regards to TCPA, but CAN-SPAM regulations may still apply.

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- Collecting the time and phone number from which the consent is provided is recommended for TCPA compliance.

By participating, you consent to receive text and email messages sent by an automatic telephone dialing system. Message and data rates may apply. Text STOP to 12345 to cancel.

Consent/Study Info: <u>www.yoursurveyorg.org</u>

STOP = Keyword

12345 = Short Code

# Gathering Consent for SMS contacts

Example of consent gathering for SMS contact at the end of a telephone survey among cell respondents...(McDonald and Kifer, 2016)

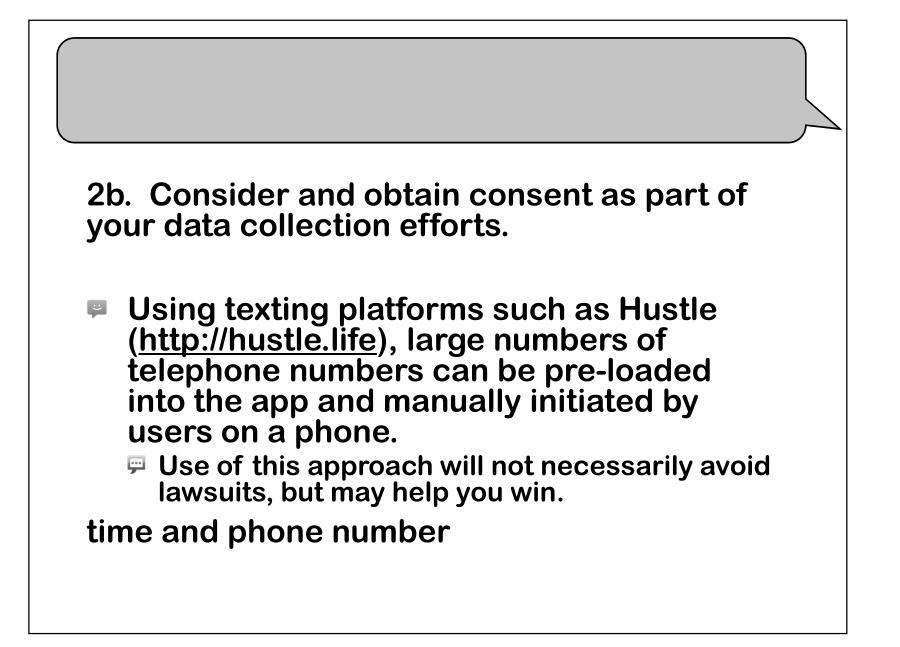
"Before we end the survey, we would like to see if you would be interested in participating in a future texting (SMS) survey.

We must obtain your consent before we can send you an automatic text message - initiating the survey.

You will be able to, at any time, <u>revoke your consent</u> and stop receiving <u>future text messages</u>.

Do I have your consent?

Your identity will remain confidential. Keep in mind that all we have is your telephone number."



- 3. If using SMS for recruitment, consider...
- If the survey to which the SMS recruitment is referring is to be completed online, make sure it is optimized for mobile.
  - McGeeney and Yan (2016) found that over half of respondents in a text + email invitation group completed the survey using a smartphone compared to third in the email only invitation group.
- If your organization is sponsoring the survey be sure to spell out the name of the organization clearly in the recruitment email and provide a clear statement about why the sampled person is being contacted via text.
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- 4. If the SMS is going to be used for survey recruitment consider...
- Because the size of the SMS is limited consider using a shortened version of the survey page's URL
  - Bitly: https://bitly.com/
  - TextMagic https://www.textmagic.com/free-tools/url-shortener in an SMS survey interview; But in context, 71% of respondents were non-consenters.

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 Substantially shorten the length of a hyperlink with a URL shortener tool.

 prudent or

 • URL Shortener for Text Messages

 • URL here

5. If the SMS is going to be used for survey reminders consider...

- Not everyone who has text message capabilities will consent to receiving them for reminders.
  - McGeeney and Yan (2016) found that only 54% of panelists with cell phones consented to receiving text messages.
  - Hoe and Grunwald (2015) found that about 17% of the sample did not consent to participate in an SMS survey interview; But in context, 71% of respondents were nonconsenters.
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6. If the SMS is going to be used for survey reminders consider...

For those who respond to text message reminders, the response is usually sooner when compared to email reminders

➡ Hoe and Grunwald (2015) :
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7. SMS surveys can be of varying length but individual questions and responses still need to fit inside the character limits of the SMS message.

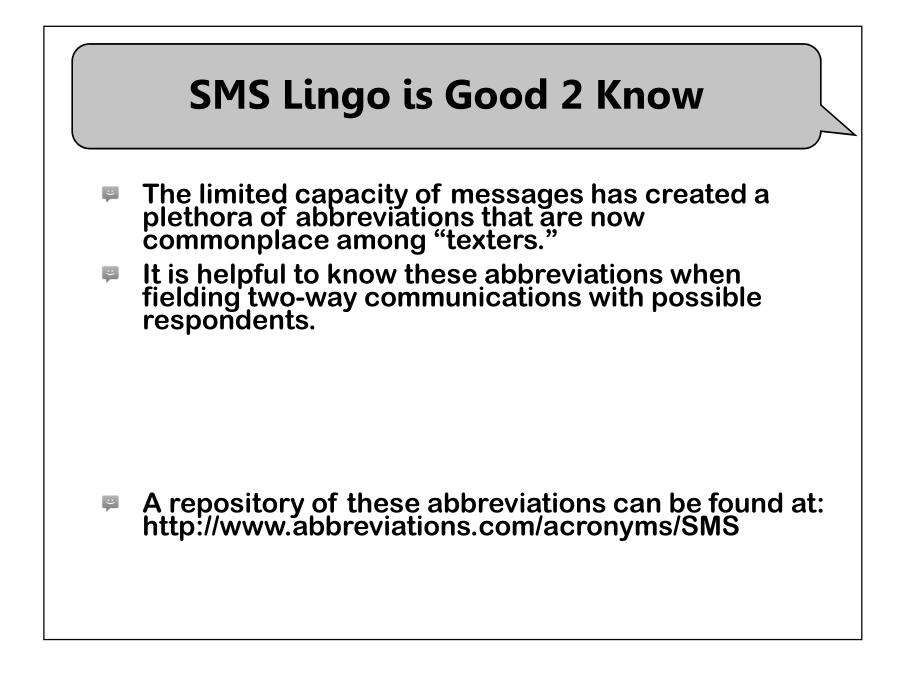
- McDonald & Kifer (2016): fielded a 25 questions SMS survey. <u>http://instantcensus.com/blog/how-long-can-text-message-surveys-be-longer-than-any-of-us-believed</u>
- Hoe and Grunwald (2015) fielded a 9 question SMS survey with complex skip pattern logic.
- While the number of messages increases, given the word limit a good practice is to separate question texts from answer choice texts if the combination is longer than 160 characters.

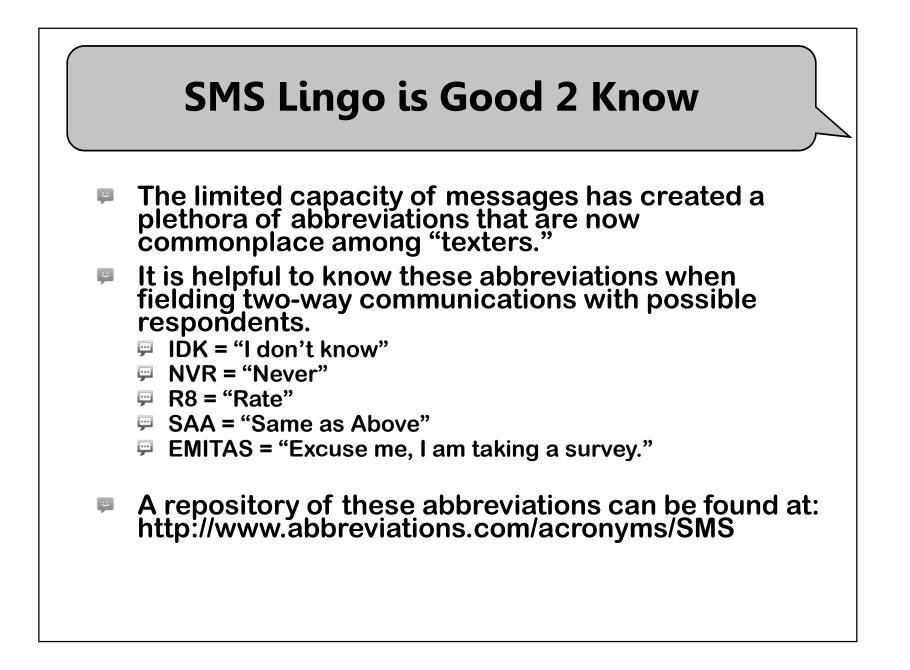


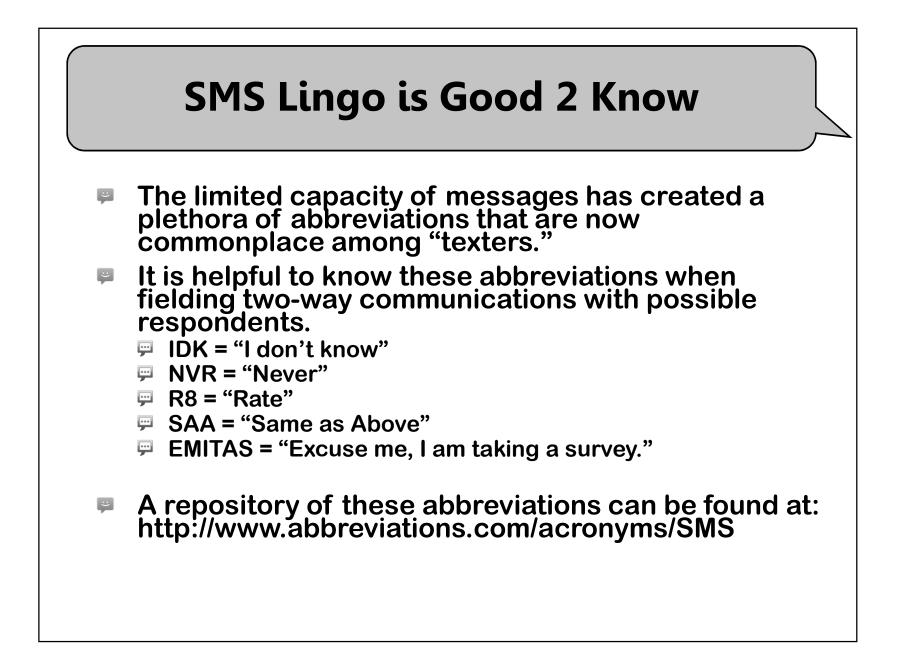
- Messages containing more than the allowed characters are automatically split and concatenated on the receiver's end.
  - For GSM encoding, these long messages are split into 153 character chunks
    - (7 characters used for the segmentation info and to concatenate the individual messages back together).
  - For UTF encoded long messages, they are split into 67 character chunks
    - (with 3 characters used for the segmentation info and to concatenate the individual messages back together)
  - While providers generally reassemble the texts in the correct order, it is completely possible that the chunks are delivered in a completely different order (Schober et al., 2015; Zagorsky, 2016).

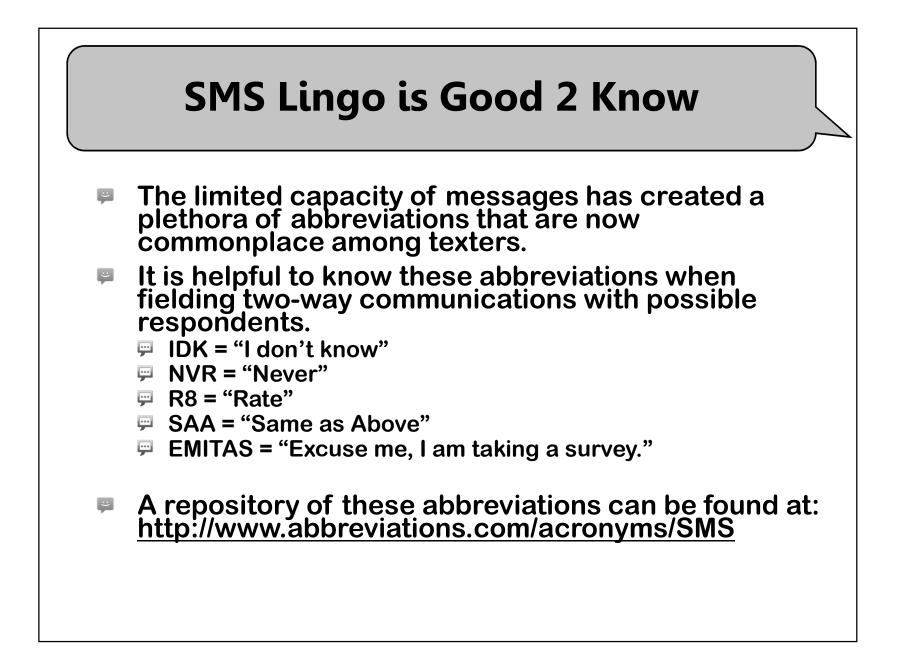


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### Practical Tips for using SMS for Survey Research in the U.S.

- 8. If using SMS for survey data collection...
- Consider embedding answer choices directly into the text itself and then program keywords and variants as recognized answer choices...or number more complex answer choices.
  - See Zagorsky, 2016 for more examples

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Are you <u>male</u> or <u>female</u>?

For your current residence, do you rent or own? What is your highest education level?

- 1. Less than H.S.
- 2. High School/GED
- 3. Some College
- 4. College
- 5. Graduate School

# A Sampling of SMS Tools

#### SMS communication tools:

- TextMagic: <u>https://www.textmagic.com/</u>
- Textizen: <u>https://www.textizen.com/</u>
  - Used by Hoe and Grunwald (2015) <u>http://bit.ly/2lqTepv</u>
- Do it yourself Surveys to Full Service
  - Instant Census: <u>http://instantcensus.com/</u>
    - Used by McDonald and Kifer (2016)
  - Magpi: <u>http://home.magpi.com/</u>
  - DialMyCalls: <u>https://www.dialmycalls.com/</u>
    - Used by Chang et al. (2014) for an SMS Survey <u>http://bit.ly/2lSy1pm</u>

Qualtrics: <u>http://bit.ly/2kWDYxb</u>

# **Concluding Remarks/Questions**

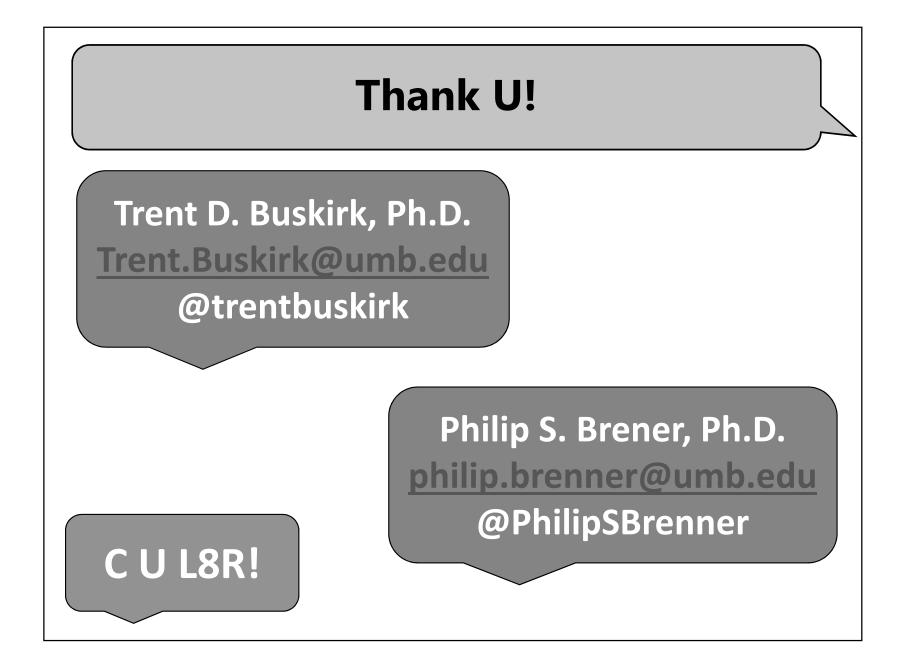
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  - Respondent engagement/response
  - 🗭 Cost
  - 🤛 Quality
- However, prior consent requirements do exist and can have very negative consequences in terms of violation costs, even for researchers.
- Peer-to-peer reminders/messages/surveys may provide a "work through" for TCPA bulk administration clauses for researchers, but at the trade-off with extra time and higher costs.
- Using SMS within a panel or other environment within which consent is a natural part of respondent communication seems most promising at the current time.
- More research is needed to better understand message delivery frequency, survey length, open ended processing and smarter logic based on conversational texts as opposed to closed ended answers.

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## References

- Hoe and Grunwald (2015): "The Role of Automated SMS Text Messaging in Survey Research," Survey Practice. <u>http://bit.ly/2I556h6</u>
- McGeeney and Yan (2016) 'Text Message Notification for Web Surveys: Sending texts to survey panel members shortens response time," Pew Research Center Report. <u>http://pewrsr.ch/2c7PaCX</u>
- Steeh, C., T.D. Buskirk and M. Callegaro. 2007. Using text messages in U.S. mobile phone surveys. *Field Methods*, 9 (1): 59–75.
- Buskirk, T.D., M.C. Callegaro and C. Steeh. 2004. "Text 2 U: contacting wireless subscribers using text messaging for mobile phone surveys." *American Association for Public Opinion Research Section on Survey Research Methods*, 4929–4934. <u>http://bit.ly/2kAHxci</u>
- Buskirk, Callegaro and Rao (2010) "N the Network? "N the Network?" Using Internet Resources for Predicting Cell Phone Number Status" Social Science Computer Review, Vol 28, Issue 3, pp. 271 – 286. http://bit.ly/2I7K1mj
- Schober MF, Conrad FG, Antoun C, Ehlen P, Fail S, et al. (2015) Precision and Disclosure in Text and Voice Interviews on Smartphones. PLOS ONE 10(6): e0128337. doi: 10.1371/journal.pone.0128337; <u>http://bit.ly/1Lfswaa</u>
- Link MW, Murphy J, Schober MF, Buskrik TD, Childs JH, Tesfaye CL. Mobile techologies for conducting, augmenting and potentially replacing surveys: report of the AAPOR Task Force on Emerging Techologies in Public Opinion Research. United States of America: 2014.
- Brick JM, Brick PD, Dipko S, Presser S, Tucker C, Yuan Y. Cell Phone Survey Feasibility in The U.S.: Sampling and Calling Cell Numbers Versus Landline Numbers. Public Opin Q. 2007;71(1):23–39. doi: <u>10.1093/poq/nfl040</u>
- Chang et al. (2014). "Text messaging as a community-based survey tool: a pilot study," BMC Public Health 2014, 14:936 <u>http://www.biomedcentral.com/1471-2458/14/936</u>
- Dal Grande, E., Chittleborough, C. R., Campostrini, S., Dollard, M., & Taylor, A. W. (2016). Pre-Survey Text Messages (SMS) Improve Participation Rate in an Australian Mobile Telephone Survey: An Experimental Study. *PLoS ONE*, *11*(2), e0150231. <u>http://doi.org/10.1371/journal.pone.0150231</u>