



Happening in SRO

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Patty's Road Trip Across SRO

Hello SRO

I am looking forward to joining you in one of your upcoming small team or sub-unit meetings. The purpose of my visit will be to listen and hear how things are going for you and your colleagues and also be available to answer any questions you might have for me. I thought these smaller forums -- compared with the large SRO All Staff meetings -- might be a good approach to share information and discuss relevant issues. I hope you agree; and I am looking forward to seeing you on my virtual ‘road trip’ across SRO.

I am working out a schedule to get around to all the forums, meetings or conference calls, as quickly as my schedule allows. Feel free to route any questions in advance once a meeting has been scheduled with your group – or you can just bring it up on the spot. Whatever you prefer.

Thanks,
Patty



Stress and Wellbeing in Everyday Life (Piotr Dworak, Gary Hein, Jim Rodgers)

Stress and Hypertension

Are you feeling relaxed now ... or anxious or stressed? How high is your heart rate and blood pressure? Researchers from the University of Michigan Life Course Development Program, Dr. Kira Birditt and Dr. Toni Antonucci, want to know that about every one of the 300 participants in the Stress and Wellbeing in Everyday Life (SWEL) study and they want to have that information available for every minute of a 4-day measurement period.

What motivates this research, funded by a specific National Institutes of Health grant for Research on Stress and Resilience to Address Health Disparities in the United States, is gaining better understanding of the mechanisms causing hypertension which include reaction to stress. Hypertension is the number one cause of racial disparities in mortality in the U.S.¹² and the researchers hypothesize that the disparities may be “due to variations in long-term exposure to stress and stress reactivity (biological, psychological, behavioral).”³ SWEL will collect data on physiological response to stress (heart rate, respiration, and blood pressure) to see if there are indeed differences in how this response is moderated among African American and White research participants.

¹ Wong MD, S.M., Boscardin WJ, Ettner SL., Contribution of major diseases to disparities in mortality. N Engl J Med, 2002. 347(20): p. 1585-1592.

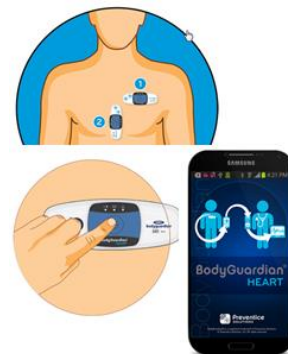
² Mozaffarian, D., et al., Heart disease and stroke statistics-2015 update: a report from the American Heart Association. Circulation, 2015. 131(4): p. e29.

³ Birditt, Kira Racial Disparities in Cardiovascular Health, R01 Proposal.

SWEL Study Protocol

To obtain data for testing this hypothesis, SRO is collaborating on a complex data collection protocol involving gathering biofeedback from wearable devices combined with a self-administered feedback from ecological momentary assessment surveys (EMA) collected on mobile devices.

The sample for the study includes 480 respondents in the Detroit tri-county area who completed the Social Relations Wave 3 (2014) interview, also conducted by SRO. Interviewers will obtain a baseline 30 – 45 minute CAPI interview and fit respondents to wear a BodyGuardian sensor for 4 days. The small, chip-like, sensor sits on an adhesive strip placed on the chest. The sensor is storing data about cardiac and other activity (cardiac rhythm, respiration, etc.) and sends it via Bluetooth to a smart phone which then sends all information to the data servers.



(Please rate how well each describes how you feel right now.)

TENSE/STRESSED

- ☐ Not at all
- ☐ A little
- ☐ Somewhat
- ☐ Quite a bit
- ☐ A Great Deal



The same smart phone will also be used to request participation in 6 daily mobile self-administered surveys (every 3 hours starting at 6:00 AM). SRO's Technical Services Group is working with Preventice, the manufacturer of the BodyGuardian, on embedding our notification app on the BodyGuardian phone.

In addition to the innovative data being collected, SWEL is also piloting SRO's Michigan Survey Management System (MSMS) as an offline CAPI data collection application. MSMS task-oriented structure will be crucial in managing the complicated data collection protocol including not only appointments and interviewing but also setting up devices for respondents, monitoring completion of

the EMA surveys, and keeping an eye on the device inventory.

The study is being conducted in collaboration with the University of Michigan Center for Computational Medicine and Bioinformatics (<http://www.ccmb.med.umich.edu/>) and University of Michigan Bio-Social Methods Collaborative (<http://biosocialmethods.isr.umich.edu/>). The devices are currently being piloted and evaluated by both groups which may affect the start of SRO data collection. We are tentatively scheduled to train and launch in June 2017.

From the Archive (Kelly Chatain)

The National Association of Science Writers (NASW) was formed in 1934 when a dozen science reporters met in New York City to discuss how to promote and improve science writing.⁴ By 1955 the NASW was incorporated and looking to find out more about the public's scientific attitudes in general and how best to communicate the breakthroughs of the 1950s, the age of polio vaccines, atomic energy and, within a few years, the space race with the launch of Sputnik I in October 1957. The task was essentially a fact-finding mission, specifically, "To measure the size of the science audiences of the major media, and to point out some of the factors which contribute to the consumption of science news."⁵ The topic was approached in three ways: What does the public know about science? How do they get this information from the mass media? What general attitudes about science and scientists exist in the minds of the public?⁶ A pilot study was conducted in April 1955 with 200 interviews to develop a questionnaire and explore the topic, with a nationwide study commissioned in 1957. The Rockefeller Foundation funded both studies.

⁴ <https://www.nasw.org/about-national-association-science-writers-inc> retrieved on February 8, 2017.

⁵ (1958). *The public impact of science in the mass media: a report on a nation-wide survey for the National Association of Science Writers*. [Ann Arbor].

⁶ "Instruction Book: News Media Study Survey Research Center", February 1957, SRO archive, Project 423.

2,000 private households were selected with an area probability sampling method, and random selection was used to determine which adult in the dwelling would be interviewed. A minimum of four calls total were authorized for each urban respondent and three calls for each rural respondent unless the response rate was below 85% for an interviewer, when more calls were required. A total of 1919 interviews were conducted. The interviews took approximately an hour and a half, but could run up to two hours⁷. To avoid bias, respondents weren't made aware that science was the topic of focus until they were well into the interview. Two forms of the questionnaire were administered, but they contained only one difference between them on a single question (see images below). On Form A respondents were asked about their interest in a list of scientific topics. Form B asked the same question but the scientific topics were instead written as headlines. Survey Research Center office contacts reached out to local sheriffs or police chiefs to make them aware of the study being conducted, along with the Better Business Bureau or local chamber of commerce.

Reading the study's report in 2017 doesn't provide too many surprises. Of the four forms of mass media studied (newspapers, magazines, radio, and television) it was newspapers that were found to carry the greatest weight in science communication. Nine out of ten adults read newspapers and 71% of those respondents recalled a science story, with magazines coming in second. Interest in science was strongly linked to education and income level. Women were more interested in medical science and men in more abstract scientific topics, though all respondents showed more interest in topics that related to them personally. The headlines experiment proved that more "concrete" and "vivid" presentations of content helped to attract more interest, especially for abstract topics. Respondents with no science training and a high-school diploma were most influenced by headline wordings. Most importantly, this study provided an essential baseline for the future of research into scientific literacy and attitudes that continues today.⁸

Form A

Here are some examples of science stories that you might see or hear about. As I read each one, would you tell me how interested you would be in reading or hearing such a story - very much interested, somewhat interested, or not very interested?

	Very much	Some- what	Not very
a. New ways of treating diseases			
b. The discovery of a new star			
c. The effects of atomic bombs on human beings			
d. How molecules are held together			
e. The causes of depressions and hard times in the United States			
f. The discovery of an ancient civilization			
g. The psychology of how to raise children			
h. Rocket ships and space travel			
i. New scientific ways to prepare food			

⁷ (1958). *The public impact of science in the mass media: a report on a nation-wide survey for the National Association of Science Writers*. [Ann Arbor].

⁸ DeGroat, Bernie (2016, October 28). Survey shows public interest in science high, literacy constant. *The University Record*. Retrieved from <http://record.umich.edu/articles/survey-shows-public-interest-science-high-literacy-constant>.

Form B

Here are some examples of science stories that you might see or hear about. As I read each one, would you tell me how interested you would be in reading or hearing such a story - very much interested, somewhat interested, or not very interested?

	Very much	Some- what	Not very
a. Can science protect you against heart disease?			
b. Newly discovered star gives clue to how world began.			
c. Will atom bomb tests affect your health?			
d. New chemical theory doubles mileage of gasoline .			
e. How you can protect your family against hard times.			
f. Discovery of ruins confirms Biblical story of Ruth.			
g. Will today's children be smarter than their parents ?			
h. Test of new rocket for first flight to moon announced.			
i. Foods that won't ever spoil.			