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Enhancing Response Usability in a Web-based Survey, But Did Anyone Use It?

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Survey Design

- The balancing act
 - Project limitations
 - Client ideas
 - Design best practices
 - What respondents will actually do



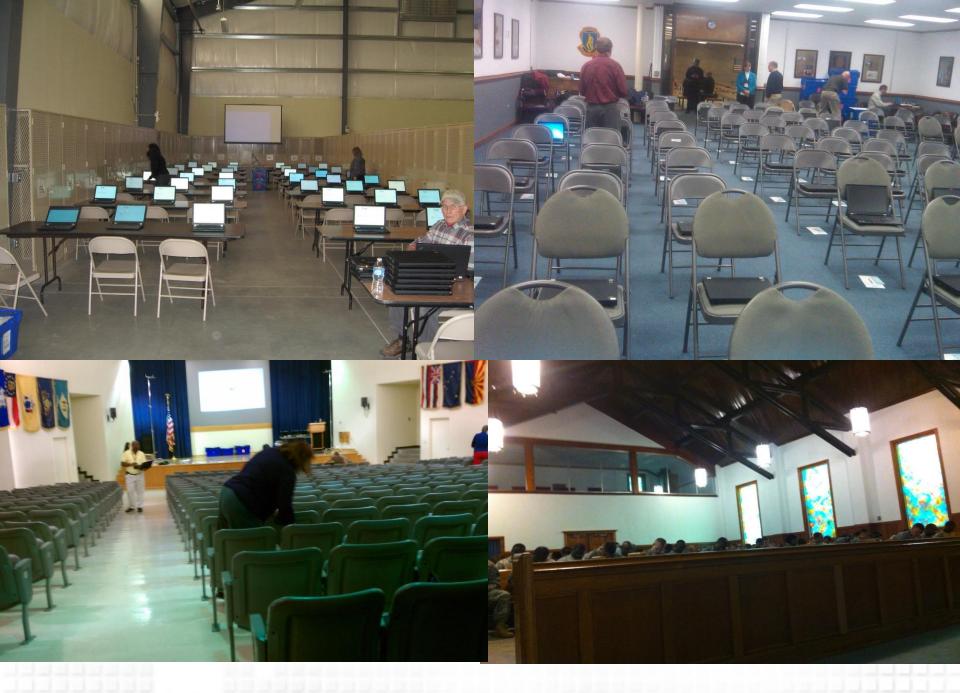
Study Background

- Army Study to Assess Risk and Resilience in Servicemembers
 - All Army Study
- Investigating Soldier suicide risk by understanding predictors of suicide



The Problem

- Session characteristics
 - Group administered various sizes
 - Each Soldier has his or her own laptop
- Uncertainty in the data collection setting
 - Physical space was often unpredictable



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A Possible Solution?

- Enhanced Navigation
- New JavaScript code enabled Soldiers to navigate the instrument using only the keyboard
 - Arrow keys + spacebar
 - Additional instruction per page if necessary
- Highlighting was added to show Soldiers the active field on the web page



A Couple of Questions

- Did the Soldiers use keyboard-only navigation?
- Did different question types lead to more or less keyboard-only navigation?
- Did the different types of navigation lead to more or less backing-up in the instrument?
- Was keyboard-only navigation faster than other types of navigation?



Answers in Paradata

- Navigation use was recorded in an individual x webpage-level keystroke file
- Types of navigation
 - Mouse-only
 - Keyboard-only
 - Both mouse and keyboard
- Examined questions from the first two sections of the instrument
- Only examined pages that had responses



What is your primary language?

English

Spanish

Some other language

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Radio Button – Short List						
Mouse-Only Keyboard-Only Both						
81.7%	12.8%					



Which of the following best describes your current Army career intentions?

- I will definitely stay in the Army until retirement.
- I will probably stay in the Army until retirement.
- o I will definitely stay in the Army beyond my present obligation, but not necessarily until retirement.
- o I am undecided whether to stay in the Army after my present obligation.
- o I will probably leave the Army after my present obligation.
- o I will definitely leave the Army after my present obligation.

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Radio Button – Long List						
Mouse-Only Keyboard-Only Both						
72.1% 7.0% 20.9%						



The next questions are about physical pain in any part of your body in the <u>past 30 days</u>. Using a scale from 0-to-10 where 0 means "no pain" and 10 means "pain as bad as could be," how would you rate the severity of your physical pain <u>on average</u> over the past 30 days?

0 - <u>No p</u> ain	1	2	3	4	5	6	7	8	9	10 - Pain as bad as could be
O .	0	Ö	0	0	0	0	0	0	0	0
<- Back					Next ->					

Radio Button – Horizontal Presentation						
Mouse-Only Keyboard-Only Both						
90.2%	5.1%	4.7%				



First, please answer a few questions about yourself. How old are you?



After answering, press the "ENTER" key to move to the "NEXT" button.

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Text Box							
Mouse-Only Keyboard-Only Both							
4.5%	23.2%	72.3%					



What is your race? (Mark all that apply.)

		Wh	ite
O/A	_	0.000,000,000	

- Black or African American
- American Indian or Alaskan Native
- Asian (e.g., Chinese, Filipino, Indian)
- Native Hawaiian or other Pacific Islander
- Other

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Check Boxes						
Mouse-Only Keyboard-Only Both						
45.1%	5.2%	49.7%				

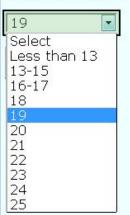


About how old were you the very first time you had sleep problems for one month or longer? (Your best estimate is fine if you cannot remember your exact age.)





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Drop-Down Box							
Mouse-Only Keyboard-Only Both							
89.8%	5.4%	4.8%					



The next questions are about your health.

How often in the past 30 days did you have each of the following problems?

All or almost all the time	Most of the time	Some of the time	A little of the time	None of the time
0	0	0	0	0
0	0	0	•	0
0	0	0	0	0
0	0	©	0	0
0	0	0	0	0
	all the time	all the time the time	all the time the time the time	all the time the time the time the time the time the time the time the time the time

Radio Button Grid						
Mouse-Only	Mouse-Only Keyboard-Only Both					
85.3%	5.6%	9.1%				



About how many months has your pain been going on?

Less than									12 or more
one month	1	2	3	4	5	6	7-9	10-11	months
0									0

How persistent has your pain been over this time?

- Tt comes and goes
- Tt is almost always there and varies quite a bit in severity
- It is almost always there and varies somewhat in severity
- o It is almost always there and does not vary much in severity

How much has your pain changed over this time?

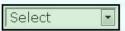
- It has gotten quite a bit better over time
- It has gotten a little better, but not much
- No change
- o It has gotten a little worse over time, but not much
- It has gotten quite a bit worse over time

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Multiple Questions / Page						
Mouse-Only Keyboard-Only Both						
91.8% 5.1% 3.1%						



About how old were you the very first time in your life you had a head, neck, or blast injury that knocked you out?



When was the most recent time you had a head, neck, or blast injury that knocked you out?

- Past 30 days

- ⊚ 3-5 years ago
- 6 or more years ago

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Multiple Questions / Page			
Mouse-Only	Keyboard-Only	Both	
92.3%	4.5%	3.2%	



About how old were you the very first time in your life you had a head, neck, or blast injury that...

knocked you out?	Select	
didn't knock you out, but caused you to be dazed, confused, or to "see stars"?	Select	•
perforated your eardrum?	Select	•
caused you to have a lapse in memory of events before, during, or after the injury?	Select	•
<- Back Next ->		

Drop-Down Box Grid			
Mouse-Only	Keyboard-Only	Both	
90.6%	6.2%	3.2%	

Did Behavior Change By The End?

	Mouse-Only	Keyboard-Only	Both
Radio Button – S.L			
Beginning	81.7%	5.5%	12.8%
End	88.4%	8.7%	2.9%
Radio Button – L.L.			
Beginning	72.1%	7.0%	20.9%
End	87.4%	8.9%	3.7%
Radio Button Grid			
Beginning	85.3%	5.6%	9.1%
End	86.3%	8.4%	5.3%

More Results

 Soldiers were NOT more likely to be backing up in the instrument based on the navigation method they chose

$$-X^{2}(2, N = 204,222) = 4.0, p = 0.14$$



More Results

 Questions answered with keyboard-only navigation were answered faster than questions with mouse-only navigation

Average Time in Page			
Mouse-Only	Keyboard-Only	Both	
19.6	14.3	15.0	



Conclusions

- Our facilitator instruction about navigation did not appear to have an impact
- Soldiers couldn't really give up the mouse
 - Those who did were faster
- Implications
 - Power of paradata!
 - Generate questions and identify information required for answers before data collection

Administration & Funding

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 - Co-Pls: R. Ursano (USUHS) & M. Stein (UCSD)
 - Site-PIs: R. Kessler (HMS) & S. Heeringa (UM)
 - Collaborating NIMH Scientists: L. Colpe & M. Schoenbaum
 - Consulting Army Scientists: K. Cox & S. Cersovsky
- Army STARRS in-theater research was conducted under a protocol reviewed and approved by the U.S. Army Medical Research and Materiel Command (MRMC) Institutional Review Board, and in accordance with the approved protocol.