

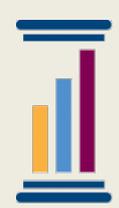
Straight-Lining and Survey Reluctance: Prevalence and Implications

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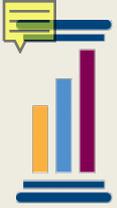
Overview

- Background
- Research Questions
- Method
- Results
- Conclusions & Implications
- Future Research



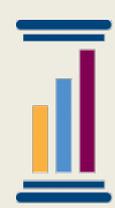
Background

- Straight-lining (SL) or selecting the same response option for a set of items using the same scale.
- As SL'ing increases, survey duration typically decreases (Kaminska, McCutcheon, & Billiet, 2010) bringing to question data quality.
- SL'ing is one possible indicator of “satisficing”
 - Schaeffer and Presser describe satisficing as the process of “conserving time and energy and yet producing an answer that seems good enough for the purposes at hand” (p. 68).
 - However, SL'ing is not necessarily problematic. SL'ing can be valid responses.



Background

- Survey reluctance, as indicated by the number of contact attempts it took before the survey recipient responded, was significantly associated with straight-lining and academic ability (Kaminska, McCutcheon, & Billiet, 2010).
- As prior research has shown, both behaviors (straight-lining and survey reluctance) can undermine data quality.



Research Questions

This study will expand on this line of research by investigating the occurrence of straight-lining in higher education surveys and the association of this behavior with survey reluctance.

1. How frequently are sets of items straight-lined in a survey of educational engagement behaviors?
2. Is straight-lining associated with survey duration and contact (wave) order?
3. Do survey reluctance and straight-lining impact survey estimates?



Method

Data Source

- *2010 National Survey of Student Engagement (NSSE)*
- 1.46 million survey invitations to first-year and senior undergraduates sent via email between February and May, 2010
- 371,616 respondents at 573 college and universities
- AAPOR response rates: 32% (RR2), 33% (RR4, $e=.88$)
- Average time to complete survey: 17.5 minutes



Method

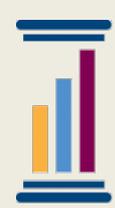
Straight-lining

- Indicated by selecting the same response for the entire set of items on a screen. In total, 11 sets were included in the study.

Example of a survey screen analyzed for straight-lining (set 3)

In your experience at your institution during the current school year, about how often have you done each of the following?

	Very often	Often	Some-times	Never
Received prompt written or oral feedback from faculty on your academic performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had serious conversations with students of a different race or ethnicity than your own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Method

Table 1. Description of NSSE web survey item sets

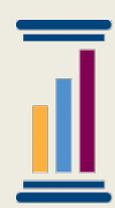
Set No.	No. items	Description of question	Response options	Nature of response options
1	8	Engagement frequency	“Very often” to “Never”	Vague
2	8	Engagement frequency	“Very often” to “Never”	Vague
3	6	Engagement frequency	“Very often” to “Never”	Vague
4	5	Perception of coursework emphasis	“Very much” to “Very little”	Vague
5	5	Amount of writing/reading	“None” to “More than 20” in categories	Enumerated
6	6	Engagement frequency	“Very often” to “Never”	Vague
7	4	Time spent on various activities	Hours per week in ordinal ranges from “0” to “More than 30”	Enumerated
8	3	Time spent on various activities	Hours per week in ordinal ranges from “0” to “More than 30”	Enumerated
9	7	Perceptions of campus environment	“Very much” to “Very little”	Vague
10	8	Self-reported gains	“Very much” to “Very little”	Vague
11	8	Self-reported gains	“Very much” to “Very little”	Vague



Method

Survey Reluctance

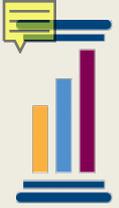
- Students received between one and five email invitations to complete the survey
- Respondents were identified by which wave prompted their eventual response
- Respondents are coded with 1, 2, 3, 4, or 5 indicating the contact (wave) order in which they submitted their surveys



Method

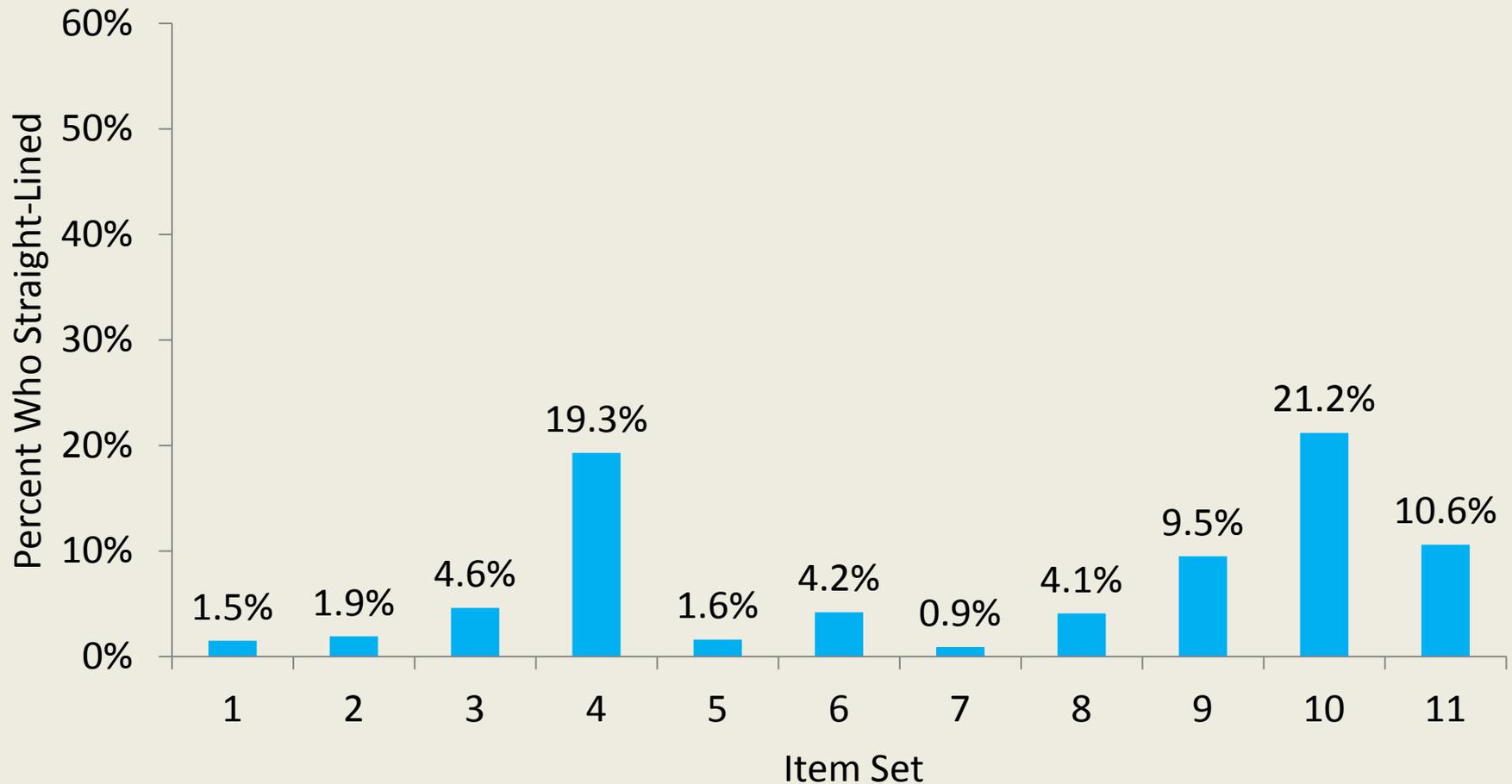
Data Analysis

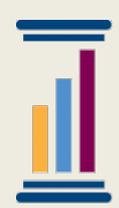
- Research question 2a (SL'ing and survey duration): ANOVA w/Bonferroni post-hoc test
- Research question 2b (SL'ing and survey reluctance): Ordinal logit analysis and ANOVA w/Bonferroni post-hoc test
- Research question 3 (survey reluctance, SL'ing and impact on survey estimates): MANCOVA



Results

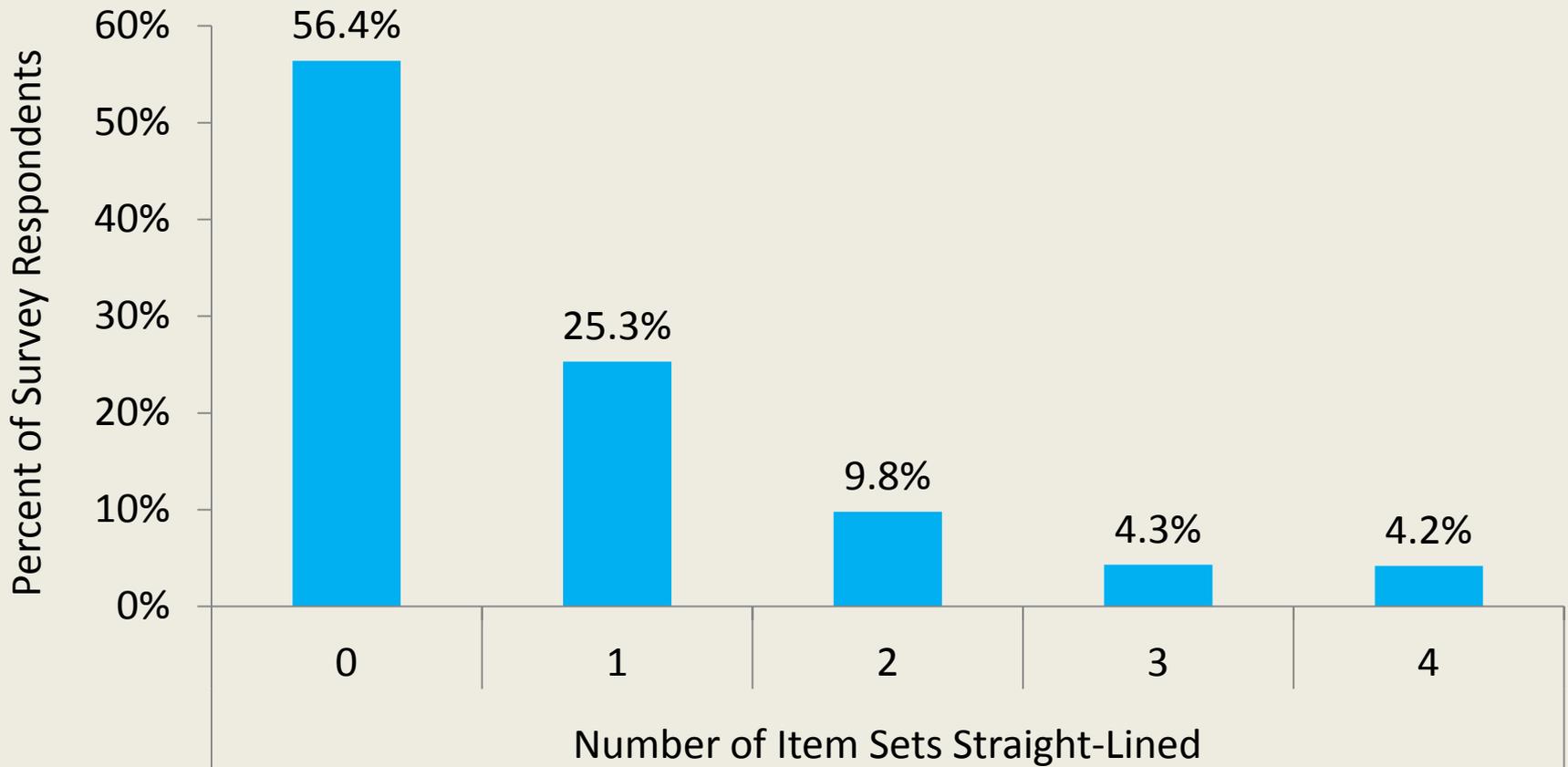
1. How frequently are sets of items straight-lined in a survey of educational engagement behaviors?

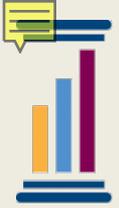




Results

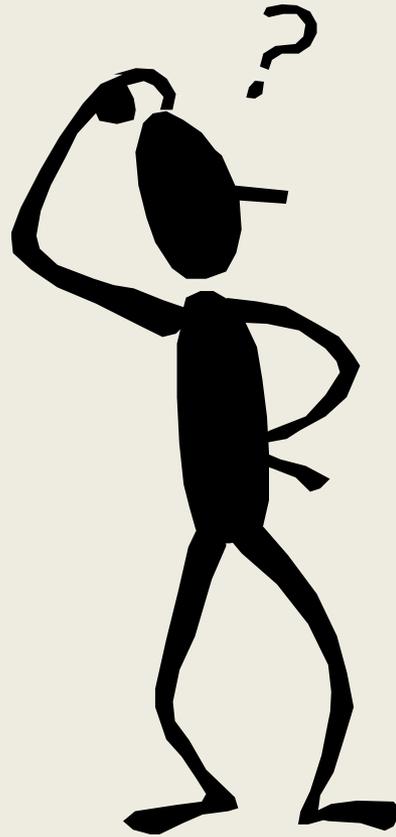
1. How frequently are sets of items straight-lined in a survey of educational engagement behaviors (cont'd)?

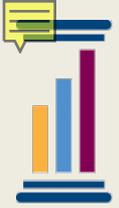




Results

2. Is straight-lining associated with survey duration?

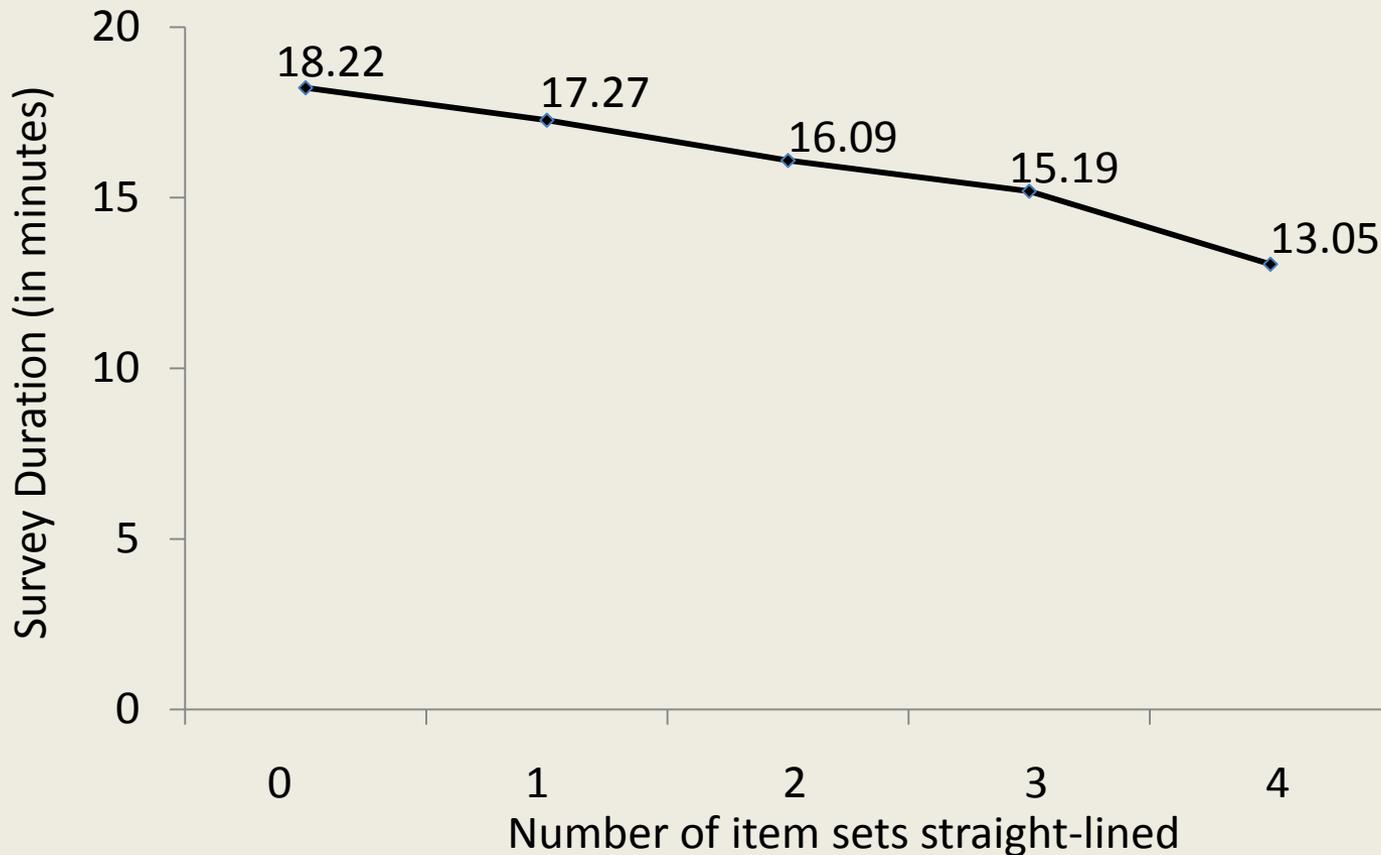




Results

2. Is straight-lining associated with survey duration?

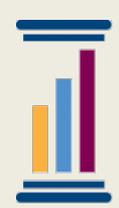
YES. As straight-lining increases, survey duration significantly drops.



ANOVA with
Bonferroni

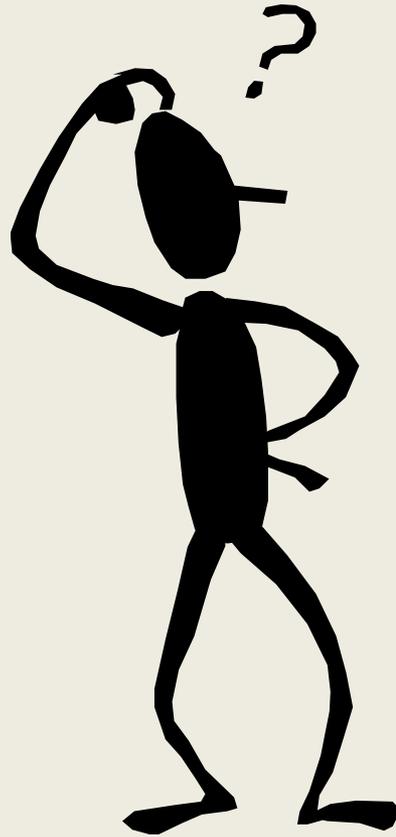
Main effect
($F=1144.0$ $p<.001$)

All post hoc
differences sig
($p<.001$)



Results

2. Is straight-lining associated with contact order?





Results

2. Is straight-lining associated with contact order?

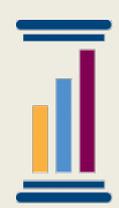
YES, but the biggest difference (10.9%) is primarily with those that don't SL. Of those that do SL, there is a significant difference with some of the comparisons, but not all.

	Total number of item sets straight-lined					Of those that SL'ed 1 or more sets		
	0	1	2	3	4 +	M	SD	N
	Contact order	1	2	3	4	5	1.65	1.18
	2	3	4	5	6	1.76	1.32	27707
	3	4	5	6	7	1.88	1.47	25404
	4	5	6	7	8	2.05	1.69	21798
	5	6	7	8	9	2.07	1.69	21578

Ordinal logit analysis; Overall model: ($\chi^2(4)=3145.23$; $p<.001$)

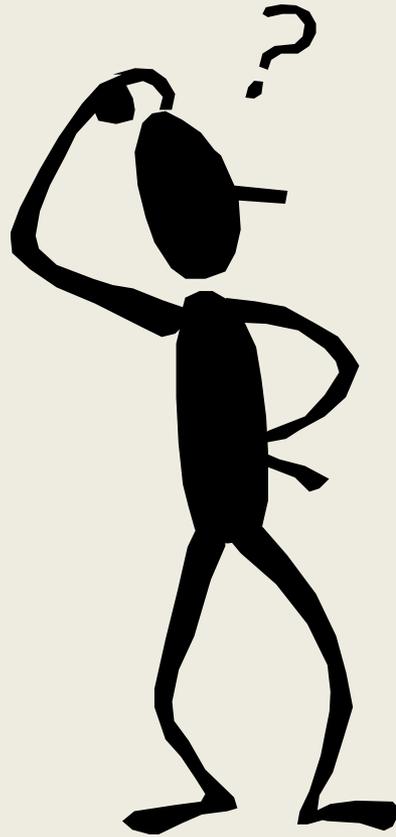
$M_{diff}=.42$; $p<.001$

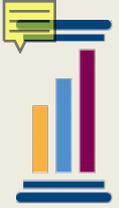
ANOVA; Main effect ($F=417.27$; $p<.001$)



Results

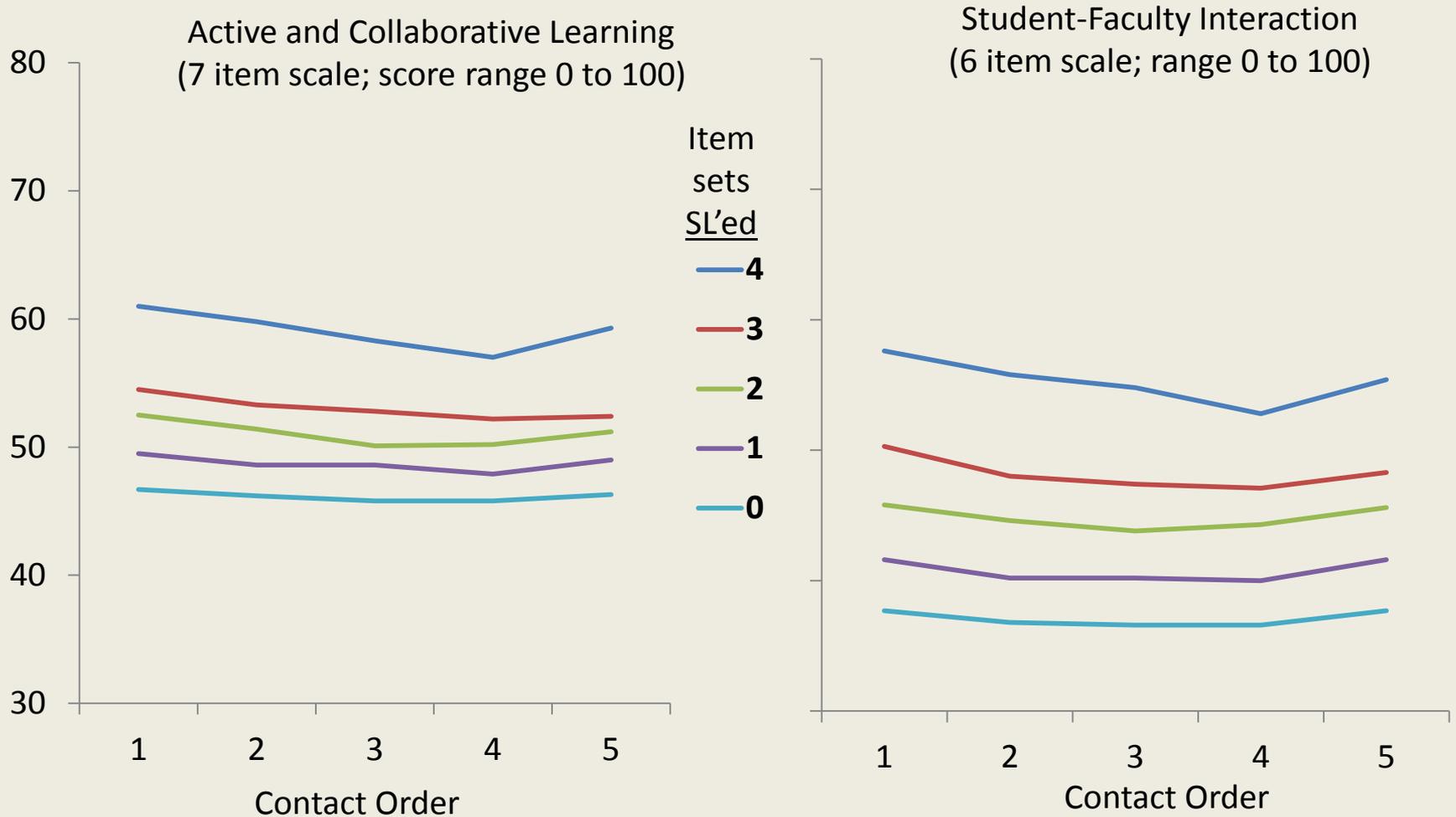
3. Do survey reluctance and straight-lining impact survey estimates?

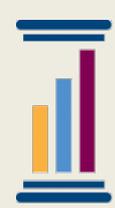




Results

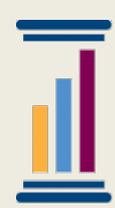
3. Do survey reluctance and straight-lining impact survey estimates?





Conclusions and Implications

1. How frequent is straight-lining in a survey of educational engagement behaviors?
 - Straight-lining is an issue for some item sets, especially later in survey and for items using vague quantifiers.
 - Just under half of respondents straight-lined at least one item set, with about 8.5% straight-lining three or more item sets
2. With each item set straight-lined, survey duration was shortened by approximately one minute. Those that straight-lined 3 or more item sets shaved more than 3 minutes off their survey duration.
3. Straight-lining occurs significantly less from respondents that replied to the initial survey invitation.
4. Reluctance does not seem to impact survey estimates, however SL'ing does. The more SL'ing the higher the survey estimates for student engagement.



Conclusions and Implications

4. (cont) Reluctance does not seem to impact survey estimates, however SL'ing does. The more SL'ing the higher the survey estimates for student engagement.

The two scales used as survey estimates included items spread across the first three screens of the survey. This indicates that SL'ing, in addition to being associated with significantly shorter survey duration, may also be associated with other respondent behaviors that impact survey estimates.



Future Research

These results suggest many opportunities for further research. Suggestions for future research include:

- Are some item sets more prone to straight-lining due to comprehensibility, respondent interest, or perceived cognitive burden of response (e.g., screen complexity)?
- Questionnaire design: Use of vague quantifiers versus numeric/enumerated categories



Future Research

- Are some respondents more likely to SL compared to other students?
- Disentangling “true” values from satisficed answers
- Who are the “hard core” straightliners? Are they exhibiting other survey behaviors that may indicate satisficing (e.g., higher rates of item missing data)?
- Does the prevalence of straightlining vary by technology used to take the survey (e.g., smartphone, desktop, iPad)?

Thank you!

Feel free to contact me for more information:

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