COCS 6323: Statistical Methods in Research

Group Project

Group 2

Department of Computer Science

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May 2, 2019

Contents

List of Tables

List of Figures

1 Contribution

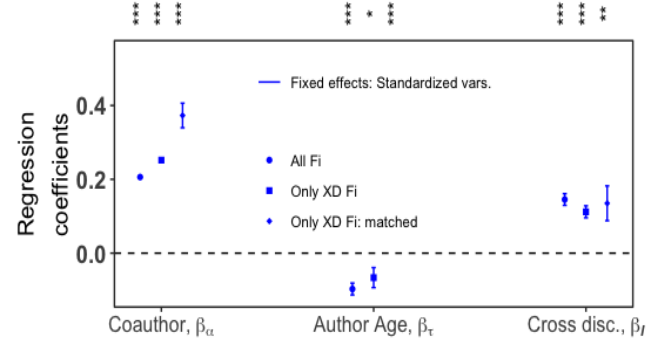| Member	Contribution
Bradley Macdonald	Analyze regression models of Figure 4
Tung Huynh	Preprocess Data, create and analyze regression models of Table S2, Table S3
Yifan Zhang	Preprocess Data, and draw plot of Figure 4

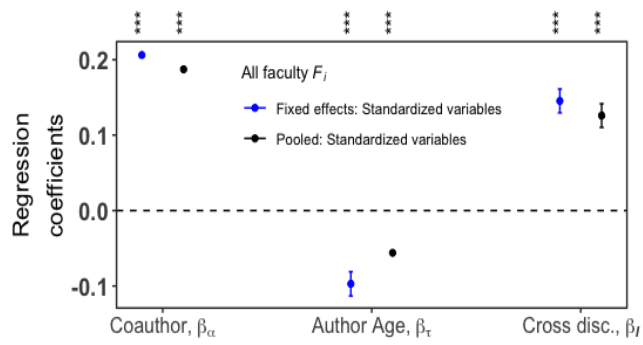Table 1: Contribution of group members of the second milestone

2 Figure 5

A
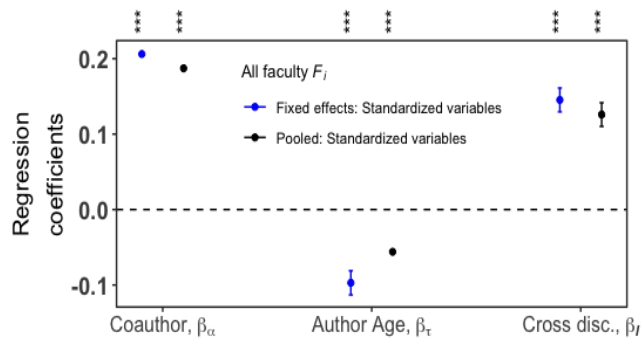
B

C

D

Figure 1: Career panel regression model

3 Supplementary Table S4

	No Fixed Effects	No Fixed Effects [Standardized]	Fixed Effects	Fixed Effects [Standardized]
Publication characteristics				
# of author, β_α	0.2836***	0.1872***	0.312***	0.2061***
	(0.0025)	(0.0016)	(0.00262)	(0.00173)
Career age, β_τ	-0.00547***	-0.0560***	-0.00949***	-0.0971***
	(0.0002)	(0.0018)	(0.00156)	(0.01601)
Cross-disciplinary indicator, β_I	0.1259***	0.1259***	0.1453***	0.1453***
	(0.0157)	(0.0157)	(0.01578)	(0.01578)
Network characteristics				
Author centrality, β_ζ	0.0440***	0.0284***	X	X
	(0.0029)	(0.0018)		
Bridge ratio, β_λ	0.3338***	0.1210***	X	X
	(0.0055)	(0.0020)		
Discipline (F) dummy	0.00790*	0.0079*	X	X
	(0.0033)	(0.0033)		
Constant	0.4586***	0.1638*	-0.2932***	-0.0669**
	(0.0761)	(0.0728)	(0.0456)	(0.0176)
Year dummy	Y	Y	Y	Y
n	413,565	413,565	413,565	413,565
adj. R^2	0.055	0.055	0.036	0.036

Standard errors in parentheses below estimate * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.0001$

Table 2: Career data set: Panel model on all falcuty

4 Supplementary Table S5

	No Fixed Effects	No Fixed Effects [Standardized]	Fixed Effects	Fixed Effects [Standardized]
Publication characteristics				
# of author, β_α	0.329***	0.236***	0.351***	0.252***
	(0.0037)	(0.0027)	(0.00392)	(0.00282)
Career age, β_τ	-0.00499***	-0.0536***	-0.00617*	-0.0663*
	(0.0003)	(0.0030)	(0.00253)	(0.0271)
Cross-disciplinary indicator, β_I	0.1095***	0.1095***	0.112***	0.112***
	(0.0165)	(0.0165)	(0.0162)	(0.0162)
Network characteristics				
Author centrality, β_ζ	0.0526***	0.0333***	X	X
	(0.0046)	(0.0029)		
Bridge ratio, β_λ	0.3192***	0.1116***	X	X
	(0.0092)	(0.0032)		
Discipline (F) dummy	-0.0383***	-0.0383***	X	X
	(0.0052)	(0.0052)		
Constant	0.2113	-0.0287	-0.408***	-0.0370*
	(0.1236)	(0.1187)	(0.0778)	(0.0285)
Year dummy	Y	Y	Y	Y
n	166,621	166,621	166,621	166,621
adj. R^2	0.067	0.067	0.049	0.049

Standard errors in parentheses below estimate * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.0001$

Table 3: Career data set: Panel model on all XD_F falcuty

5   Supplementary Table S6

	No Fixed Effects	No Fixed Effects [Standardized]	Fixed Effects	Fixed Effects [Standardized]
Publication characteristics				
# of author, β_α	0.329***	0.236***	0.351***	0.252***
	(0.0037)	(0.0027)	(0.00392)	(0.00282)
Career age, β_τ	-0.00499***	-0.0536***	-0.00617*	-0.0663*
	(0.0003)	(0.0030)	(0.00253)	(0.0271)
Cross-disciplinary indicator, β_I	0.1095***	0.1095***	0.112***	0.112***
	(0.0165)	(0.0165)	(0.0162)	(0.0162)
Network characteristics				
Author centrality, β_ζ	0.0526***	0.0333***	X	X
	(0.0046)	(0.0029)		
Bridge ratio, β_λ	0.3192***	0.1116***	X	X
	(0.0092)	(0.0032)		
Discipline (F) dummy	-0.0383***	-0.0383***	X	X
	(0.0052)	(0.0052)		
Constant	0.2113	-0.0287	-0.408***	-0.0370*
	(0.1236)	(0.1187)	(0.0778)	(0.0285)
Year dummy	Y	Y	Y	Y
n	166,621	166,621	166,621	166,621
adj. R^2	0.067	0.067	0.049	0.049

Standard errors in parentheses below estimate * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.0001$

Table 4: Career data set: Panel model on all XD_F falcuty: matching