

Peer skill identification and social class: Evidence from a referral field experiment*

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Abstract

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JEL Classification: C93, D03, D83, J24

Keywords: productivity beliefs, referrals, field experiment, skill identification, social class

*We obtained Institutional Review Board approvals from NYU Abu Dhabi (HRPP 2024-50) and the University of Luxembourg (ERP 24-028). The study design was preregistered in the OSF Registries prior to data collection (see <https://doi.org/10.17605/OSF.IO/V9T3W>).

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10 **1 Introduction**

10

11 **2 Background and Setting**

11

12 **3 Design**

12

13 **4 Results**

13

Table 1: Summary Statistics by Treatment Status

	Control	Treatment	<i>p</i>
GPA (z-score)	0.126 (0.959)	0.187 (0.963)	0.393
Reading Score (z-score)	0.212 (0.892)	0.320 (0.969)	0.116
Math Score (z-score)	0.285 (0.900)	0.307 (0.978)	0.753
Tie Strength	3.982 (6.041)	3.923 (5.613)	0.892
Estrato	1.670 (0.633)	1.693 (0.633)	0.623
Age	20.576 (2.410)	20.733 (2.423)	0.380
Female	0.529 (0.500)	0.531 (0.500)	0.947
Observations	382	352	

Table 2: Summary Statistics for Choice Set and Nominated Peers

	Verbal		Math	
	Choice Set	Nominated	Choice Set	Nominated
GPA (z-score)	-0.140 (0.981)	0.579 (0.994)	-0.147 (0.983)	0.580 (0.998)
Reading Score (z-score)	0.167 (0.902)	0.547 (0.883)	0.166 (0.903)	0.501 (0.910)
Math Score (z-score)	0.202 (0.883)	0.513 (0.918)	0.206 (0.885)	0.624 (0.941)
Tie Strength	3.222 (4.625)	14.467 (9.382)	3.217 (4.632)	13.822 (9.291)
Estrato	1.817 (0.672)	1.738 (0.648)	1.811 (0.672)	1.725 (0.647)
Age	20.942 (2.180)	20.501 (2.698)	20.958 (2.187)	20.490 (2.559)
Female	0.524 (0.499)	0.562 (0.497)	0.520 (0.500)	0.428 (0.495)
Observations	128,847	673	128,150	669

¹⁴

5 Conclusion

¹⁴

References

¹⁶ **A Additional Figures and Tables**

¹⁶

¹⁷ **A.1 Additional Figures**

¹⁷

18 **B Experiment**

18

19 We include the English version of the instructions used in Qualtrics. Participants saw 19
20 the Spanish version. Horizontal lines in the text indicate page breaks and clarifying 20
21 comments are inside brackets. 21

22 **Consent**

22

23 You have been invited to participate in this decision-making study. This study is directed 23
24 by [omitted for anonymous review] and organized with the support of the Social Bee Lab 24
25 (Social Behavior and Experimental Economics Laboratory) at UNAB. 25

26 In this study, we will pay **one (1)** out of every **ten (10)** participants, who will be 26
27 randomly selected. Each selected person will receive a fixed payment of **70,000** (seventy 27
28 thousand pesos) for completing the study. Additionally, they can earn up to **270,000** 28
29 (two hundred and seventy thousand pesos), depending on their decisions. So, in total, 29
30 if you are selected to receive payment, you can earn up to **340,000** (three hundred and 30
31 forty thousand pesos) for completing this study. 31

32 If you are selected, you can claim your payment at any Banco de Bogotá office by 32
33 presenting your ID. Your participation in this study is voluntary and you can leave the 33
34 study at any time. If you withdraw before completing the study, you will not receive 34
35 any payment. 35

36 The estimated duration of this study is 20 minutes. 36

37 The purpose of this study is to understand how people make decisions. For this, we will 37
38 use administrative information from the university such as the SABER 11 test scores of 38
39 various students (including you). Your responses will not be shared with anyone and your 39
40 participation will not affect your academic records. To maintain strict confidentiality, the 40
41 research results will not be associated at any time with information that could personally 41

42 identify you. 42

43 There are no risks associated with your participation in this study beyond everyday risks. 43
44 However, if you wish to report any problems, you can contact Professor [omitted for 44
45 anonymous review]. For questions related to your rights as a research study participant, 45
46 you can contact the IRB office of [omitted for anonymous review]. 46

47 By selecting the option “I want to participate in the study” below, you give your con- 47
48 sent to participate in this study and allow us to compare your responses with some 48
49 administrative records from the university. 49

50 • I want to participate in the study [advances to next page] 50

51 • I do not want to participate in the study 51

52 _____ 52

53 Student Information 53

54 Please write your student code. In case you are enrolled in more than one program 54
55 simultaneously, write the code of the first program you entered: 55

56 [Student ID code] 56

57 What semester are you currently in? 57

58 [Slider ranging from 1 to 11] 58

59 _____ 59

60 [Random assignment to treatment or control] 60

Instructions

62 The instructions for this study are presented in the following video. Please watch it 62
63 carefully. We will explain your participation and how earnings are determined if you are 63
64 selected to receive payment. 64

65 [Treatment-specific instructions in video format] 65

66 If you want to read the text of the instructions narrated in the video, press the “Read 66
67 instruction text” button. Also know that in each question, there will be a button with 67
68 information that will remind you if that question has earnings and how it is calculated, 68
69 in case you have any doubts. 69

70 • I want to read the instructions text [text version below] 70

72 In this study, you will respond to three types of questions. First, are the belief
72
73 questions. For belief questions, we will use as reference the results of the SABER 11 test
73
74 that you and other students took to enter the university, focused on three areas of the
74
75 exam: mathematics, reading, and English.
75

76 For each area, we will take the scores of all university students and order them from 76
77 lowest to highest. We will then group them into 100 percentiles. The percentile is a 77
78 position measure that indicates the percentage of students with an exam score that is 78
79 above or below a value. 79

For example, if your score in mathematics is in the 20th percentile, it means that 20 percent of university students have a score lower than yours and the remaining 80 percent have a higher score. A sample belief question is: “compared to university students, in what percentile is your score for mathematics?”

If your answer is correct, you can earn 20 thousand pesos. We say your answer is correct

85 if the difference between the percentile you suggest and the actual percentile of your 85
86 score is not greater than 7 units. For example, if you have a score that is in the 33rd 86
87 percentile and you say it is in the 38th, the answer is correct because the difference is 87
88 less than 7. But if you answer that it is in the 41st, the difference is greater than 7 and 88
89 the answer is incorrect. 89

90 The second type of questions are recommendation questions and are also based on the 90
91 mathematics, reading, and English areas of the SABER 11 test. We will ask you to think 91
92 about the students with whom you have taken or are taking classes, to recommend from 92
93 among them the person you consider best at solving problems similar to those on the 93
94 SABER 11 test. 94

95 When you start typing the name of your recommended person, the computer will show 95
96 suggestions with the full name, program, and university entry year of different students. 96
97 Choose the person you want to recommend. If the name doesn't appear, check that you 97
98 are writing it correctly. Do not use accents and use 'n' instead of 'ñ'. If it still doesn't 98
99 appear, it may be because that person is not enrolled this semester or because they did 99
100 not take the SABER 11 test. In that case, recommend someone else. 100

101 You can earn up to 250,000 pesos for your recommendation. We will multiply your 101
102 recommended person's score by 100 pesos if they are in the first 50 percentiles. We will 102
103 multiply it by 500 pesos if your recommended person's score is between the 51st and 103
104 65th percentile. If it is between the 66th and 80th percentile, we will multiply your 104
105 recommended person's score by 1000 pesos. If the score is between the 81st and 90th 105
106 percentile, you earn 1500 pesos multiplied by your recommended person's score. And if 106
107 the score is between the 91st and 100th percentile, we will multiply your recommended 107
108 person's score by 2500 pesos to determine the earnings. 108

109 The third type of questions are information questions and focus on aspects of your 109
110 personal life or your relationship with the people you have recommended. 110

Earnings

Now we will explain who gets paid for participating and how the earnings for this study are assigned. The computer will randomly select one out of every 10 participants to pay for their responses. For selected individuals, the computer will randomly choose one of the three areas, and from that chosen area, it will pay for one of the belief questions.

Similarly, the computer will randomly select one of the three areas to pay for one of the recommendation questions.

Additionally, if you are selected to receive payment, your recommended person in the chosen area will receive a fixed payment of 100 thousand pesos.

[Only seen if assigned to the treatment]

Each person selected to receive payment for this study can earn: up to 20 thousand pesos for one of the belief questions, up to 250 thousand pesos for one of the recommendation questions, and a fixed payment of 70 thousand pesos for completing the study.

Selected individuals can earn up to 340 thousand pesos.

[Participants go through all three Subject Areas in randomized order]

Subject Areas

Critical Reading

For this section, we will use as reference the Critical Reading test from SABER 11, which evaluates the necessary competencies to understand, interpret, and evaluate texts that can be found in everyday life and in non-specialized academic fields.

[Clicking shows the example question from SABER 11 below]

133 Although the democratic political tradition dates back to ancient Greece, political 133
134 thinkers did not address the democratic cause until the 19th century. Until then, democ- 134
135 racy had been rejected as the government of the ignorant and unenlightened masses. 135
136 Today it seems that we have all become democrats without having solid arguments in 136
137 favor. Liberals, conservatives, socialists, communists, anarchists, and even fascists have 137
138 rushed to proclaim the virtues of democracy and to show their democratic credentials 138
139 (Andrew Heywood). According to the text, which political positions identify themselves 139
140 as democratic? 140

- 141 • Only political positions that are not extremist 141
- 142 • The most recent political positions historically 142
- 143 • The majority of existing political positions 143
- 144 • The totality of possible political currents 144

145 ————— 145

146 Mathematics 146

147 This section references the Mathematics test from SABER 11, which evaluates people's 147
148 competencies to face situations that can be resolved using certain mathematical tools. 148

149 [Clicking shows the example question from SABER 11 below] 149

150 A person living in Colombia has investments in dollars in the United States and knows 150
151 that the exchange rate of the dollar against the Colombian peso will remain constant 151
152 this month, with 1 dollar equivalent to 2,000 Colombian pesos. Their investment, in 152
153 dollars, will yield profits of 3% in the same period. A friend assures them that their 153
154 profits in pesos will also be 3%. Their friend's statement is: 154

- 155 • Correct. The proportion in which the investment increases in dollars is the same 155
156 as in pesos. 156

- Incorrect. The exact value of the investment should be known.
 - Correct. 3% is a fixed proportion in either currency.
 - Incorrect. 3% is a larger increase in Colombian pesos.

160 _____ 160

161 English

162 This section uses the English test from SABER 11 as a reference, which evaluates that 162
163 the person demonstrates their communicative abilities in reading and language use in 163
164 this language. 164

[Clicking shows the example question from SABER 11 below]

166 Complete the conversations by marking the correct option. 166

- 167 ● Conversation 1: I can't eat a cold sandwich. It is horrible!

168 – I hope so.

169 – I agree.

170 – I am not.

171 • Conversation 2: It rained a lot last night! 171

172 – Did you accept? 172

173 – Did you understand? 173

174 – Did you sleep? 174

175 _____ 175

176 [Following parts are identical for all Subject Areas and are not repeated here for brevity] 176

177 **Your Score**

177

178 Compared to university students, in which percentile do you think your [Subject Area] 178
179 test score falls (1 is the lowest percentile and 100 the highest)? 179

180 [Clicking shows the explanations below] 180

181 How is a percentile calculated? 181

182 A percentile is a position measurement. To calculate it, we take the test scores for all 182
183 students currently enrolled in the university and order them from lowest to highest. The 183
184 percentile value you choose refers to the percentage of students whose score is below 184
185 yours. For example, if you choose the 20th percentile, you're indicating that 20% of 185
186 students have a score lower than yours and the remaining 80% have a score higher than 186
187 yours. 187

188 What can I earn for this question? 188

189 For your answer, you can earn **20,000 (twenty thousand) PESOS**, but only if the 189
190 difference between your response and the correct percentile is less than 7. For example, if 190
191 the percentile where your score falls is 33 and you respond with 38 (or 28), the difference 191
192 is 5 and the answer is considered correct. But if you respond with 41 or more (or 25 or 192
193 less), for example, the difference would be greater than 7 and the answer is incorrect. 193

194 Please move the sphere to indicate which percentile you think your score falls in: 194

195 [Slider with values from 0 to 100] 195

196

 196

197 **Recommendation**

197

198 Among the people with whom you have taken any class at the university, who is your 198
199 recommendation for the [Subject Area] test? Please write that person's name in the 199
200 box below: 200

201 **Important:** You will not be considered for payment unless the recommended 201
202 person is someone with whom you have taken at least one class during your 202
203 studies. 203

204 Your response is only a recommendation for the purposes of this study and we will **not** 204
205 contact your recommended person at any time. 205

206 [Clicking shows the explanations below] 206

207 Who can I recommend? 207

208 Your recommendation **must** be someone with whom you have taken (or are taking) a 208
209 class. If not, your answer will not be considered for payment. The person you recommend 209
210 will not be contacted or receive any benefit from your recommendation. 210

211 As you write, you will see up to 7 suggested student names containing the letters you 211
212 have entered. The more you write, the more accurate the suggestions will be. Please 212
213 write **without** accents and use the letter 'n' instead of 'ñ'. If the name of the person 213
214 you're writing doesn't appear, it could be because you made an error while writing the 214
215 name. 215

216 If the name is correct and still doesn't appear, it could be because the student is not en- 216
217 rolled this semester or didn't take the SABER 11 test. In that case, you must recommend 217
218 someone else. 218

219 My earnings for this question? 219

220 For your recommendation, you could receive earnings of up to 250,000 (two hundred and 220
221 fifty thousand) PESOS. The earnings are calculated based on your recommendation's 221
222 score and the percentile of that score compared to other UNAB students, as follows: 222

- 223 • We will multiply your recommendation's score by \$100 (one hundred) pesos if it's 223
224 between the 1st and 50th percentiles 224
- 225 • We will multiply your recommendation's score by \$500 (five hundred) pesos if it's 225
226 between the 51st and 65th percentiles 226
- 227 • We will multiply your recommendation's score by \$1000 (one thousand) pesos if 227
228 it's between the 66th and 80th percentiles 228
- 229 • We will multiply your recommendation's score by \$1500 (one thousand five 229
230 hundred) pesos if it's between the 81st and 90th percentiles 230
- 231 • We will multiply your recommendation's score by \$2500 (two thousand five 231
232 hundred) pesos if it's between the 91st and 100th percentiles 232

233 This is illustrated in the image below: 233

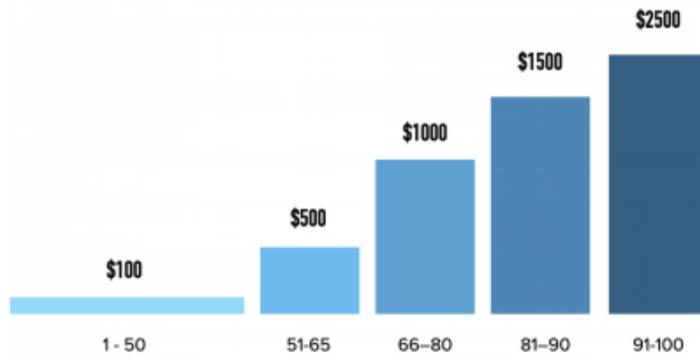


Figure B.1: Earnings for recommendation questions

234 For example, if your recommendation got 54 points and the score is in the 48th percentile, 234

235 you could earn $54 \times 100 = 5400$ PESOS. But, if the same score of 54 points were in the 235
236 98th percentile, you could earn $54 \times 2500 = 135,000$ PESOS. 236

237 [Text field with student name suggestions popping up as participant types] 237

238 ————— 238

239 **Relationship with your recommendation** 239

240 How close is your relationship with your recommendedation: “[Name of the student 240
241 selected from earlier]”? (0 indicates you are barely acquaintances and 10 means you are 241
242 very close) 242

243 [Slider with values from 0 to 10] 243

244 ————— 244

245 **Your recommendation's score** 245

246 Compared to university students, in which percentile do you think [Name of the student 246
247 selected from earlier]’s score falls in the **[Subject Area]** test (1 is the lowest percentile 247
248 and 100 the highest)? 248

249 [Clicking shows the explanations below] 249

250 How is a percentile calculated? 250

251 A percentile is a position measurement. To calculate it, we take the test scores for all 251
252 students currently enrolled in the university and order them from lowest to highest. The 252
253 percentile value you choose refers to the percentage of students whose score is below 253
254 yours. For example, if you choose the 20th percentile, you’re indicating that 20% of 254
255 students have a score lower than yours and the remaining 80% have a score higher than 255
256 yours. 256

257 What can I earn for this question?

257

258 For your answer, you can earn **20,000 (twenty thousand) PESOS**, but only if the 258
259 difference between your response and the correct percentile is less than 7. For example, 259
260 if the percentile where your recommended person's score falls is 33 and you respond with 260
261 38 (or 28), the difference is 5 and the answer is considered correct. But if you respond 261
262 with 41 or more (or 25 or less), for example, the difference would be greater than 7 and 262
263 the answer is incorrect. 263

264 Please move the sphere to indicate which percentile you think your recommended per- 264
265 son's score falls in: 265

266 [Slider with values from 0 to 100] 266

267 ————— 267

268 Demographic Information 268

269 What is the highest level of education achieved by your father? 269

270 [Primary, High School, University, Graduate Studies, Not Applicable] 270

271 What is the highest level of education achieved by your mother? 271

272 [Primary, High School, University, Graduate Studies, Not Applicable] 272

273 Please indicate the socio-economic group to which your family belongs: 273

274 [Group A (Strata 1 or 2), Group B (Strata 3 or 4), Group C (Strata 5 or 6)] 274

275 ————— 275

276 UNAB Students Distribution

276

277 Thinking about UNAB students, in your opinion, what percentage belongs to each socio- 277
278 economic group? The total must sum to 100%: 278

279 [Group A (Strata 1 or 2) percentage input area] 279
280 [Group B (Strata 3 or 4) percentage input area] 280
281 [Group C (Strata 5 or 6) percentage input area] 281
282 [Shows sum of above percentages] 282

283 ————— 283

284 End of the Experiment 284

285 Thank you for participating in this study. 285

286 If you are chosen to receive payment for your participation, you will receive a confirma- 286
287 tion to your UNAB email and a link to fill out a form with your information. The process 287
288 of processing payments is done through Nequi and takes approximately 15 business days, 288
289 counted from the day of your participation. 289

290 [Clicking shows the explanations below] 290

291 Who gets paid and how is it decided? 291

292 The computer will randomly select one out of every ten participants in this study to be 292
293 paid for their decisions. 293

294 For selected individuals, the computer will randomly select one area: mathematics, 294
295 reading, or English, and from that area will select one of the belief questions. If the 295
296 answer to that question is correct, the participant will receive 20,000 pesos. 296

297 The computer will randomly select an area (mathematics, critical reading, or English) to 297
298 pay for one of the recommendation questions. The area chosen for the recommendation 298
299 question is independent of the area chosen for the belief question. The computer will 299
300 take one of the two recommendations you have made for the chosen area. Depending on 300
301 your recommendation's score, you could win up to 250,000 pesos. 301

302 Additionally, people selected to receive payment for their participation will have a fixed 302
303 earnings of 70,000 pesos for completing the study. 303

304 _____ 304

305 **Participation** 305

306 In the future, we will conduct studies similar to this one where people can earn money 306
307 for their participation. The participation in these studies is by invitation only. Please 307
308 indicate if you are interested in being invited to other studies similar to this one: 308

309 [Yes, No] 309