

1 Project ICFES: Evidence from a referral field experiment* 1

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4 **Abstract** 4

5 Lorem Ipsum ([Beaman, Keleher, & Magruder, 2018](#)) 5

6 **JEL Classification:** C93, D03, D83, J24 6

7 **Keywords:** productivity beliefs, referrals, field experiment, skill identification, social
8 class 7 8

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9 **1 Introduction**

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10 Equally qualified individuals in the labor market may face very different outcomes de-
11 pending on their socioeconomic status (SES). A key driver of inequality according to
12 sociologists is due to differences in social capital (e.g., Bourdieu). A lack of social cap-
13 ital means a lack of access to individuals with influential (higher paid) jobs and job
14 opportunities. In economic terms, it implies having worse outcomes when using one's
15 network to find jobs conditional on the capacity on leveraging one's social network.¹

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16 Referral hiring, the formal or informal process where firms ask workers to recommend
17 qualified candidates for job opportunities, is a vivid labor market application where
18 the role of differences in social capital becomes evident. As referrals must originate
19 from the networks of referrers, the composition of referrer networks becomes a crucial
20 channel that may propagate inequality: Similar individuals across socio-demographic
21 characteristics tend to form connections at higher rates (McPherson, Smith-Lovin, &
22 Cook, 2001), making across SES (low-to-high) connections less likely than same-SES
23 connections (Chetty et al., 2022).² This implies referrals will reflect differences in network
24 structures even in the absence of biases in the referral procedure, i.e., referring at random
25 from one's network according to some productivity criteria.

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26 Yet, in case of gender, evidence shows referrals may be biased under substantial pay-
27 for-performance incentives beyond what is attributable to differences in network compo-
28 sitions (Beaman et al., 2018; Hederos, Sandberg, Kvissberg, & Polano, 2025). A similar
29 bias against low-SES may further exacerbate outcomes of low-SES individuals in the
30 labor market: If job information are in the hands of a select few high-SES which low-
31 SES have already limited network access to (social capital hypothesis), and high-SES
32 referrers are biased against low-SES, referring other high-SES at higher rates than their
33 network composition, we can be confident that referral hiring disadvantages low-SES.
34 The empirical question we answer is whether there is a bias against low-SES once we

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¹fill in citation sociology reading from slides

²Chetty and colleagues suggests the share of high-SES connections among low-SES networks as the definition of social capital, as it correlates so strongly with labor market income.

35 account for the network SES compositon in a controlled setting.

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36 In this study, we focus on the role of SES in referrals by investigating whether in-
37 dividuals who are asked to refer someone tend to refer a candidate of their own SES.
38 We also explore potential mechanisms behind referral patterns under different incen-
39 tives. To this end, we conducted a lab-in-the-field experiment with 734 participants
40 in a Colombian university where different SES groups mix together. Participants were
41 instructed to refer a qualified student for tasks similar to the Math and Reading parts
42 of the national university entry exam (akin to SAT). To incentivize participants to refer
43 qualified candidates, we set earnings dependent on referred candidates' actual university
44 entry exam scores.

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45 Referral hiring in the labor market range from formal referral program at firm asking
46 employees to refer to simply passing on job opportunities between network members
47 (Topa, 2019). As participants in our study are students at the university referring
48 based on exam scores, we abstract away from formal referral programs with defined job
49 openings. Our setting instead resembles situations where contacts share opportunities
50 with each other. This also eliminates reputational concerns as there is no firm, which
51 play a larger role in the labor market compared to our setting. At the same time,
52 national university entry exam scores are objective, widely accepted measures of ability,
53 and referrers in our setting possess accurate information about these signals.

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54 **2 Background and Setting**

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55 **3 Design**

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56 **4 Results**

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57 **4.1 Descriptives**

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Table 1: Selection into the experiment

	Admin Data	Sample	p
Reading score	62.651	65.183	0.000
Math score	63.973	67.477	0.000
GPA	3.958	4.012	0.000
Low-SES	0.343	0.410	0.000
Med-SES	0.505	0.499	0.763
High-SES	0.153	0.091	0.000
Female	0.567	0.530	0.060
Age	21.154	20.651	0.000
Observations	4,417	734	5,151

Note: This table compares characteristics between the full administrative sample and the experimental sample. *p*-values for binary outcomes (Low-SES, Med-SES, High-SES, Female) are from two-sample tests of proportions; for continuous variables, from two-sample *t*-tests with unequal variances. All reported *p*-values are two-tailed.

Table 2: Balance between treatments

	Baseline	Bonus	<i>p</i>
Reading score	64.712	65.693	0.134
Math score	67.366	67.597	0.780
GPA	4.003	4.021	0.445
# connections	173.40	176.88	0.574
Tie strength	3.939	3.719	0.443
Low-SES	0.419	0.401	0.615
Med-SES	0.492	0.506	0.714
High-SES	0.089	0.094	0.824
Female	0.529	0.531	0.947
Age	20.576	20.733	0.380
Observations	382	352	734

Note: This table presents balance tests between **Baseline** and **Bonus** conditions. *p*-values for binary outcomes are from two-sample tests of proportions; for continuous variables, from two-sample *t*-tests with unequal variances. All reported *p*-values are two-tailed. Tie strength refers to the number of classes taken together. # connections refers to the number of individuals in referrer choice sets, otherwise called the “network degree”. Low-SES, Med-SES, and High-SES are binary variables indicating the share of participants in estrato 1 and 2, 3 and 4, or 5 and 6, respectively.

Table 3: Distribution of referrals by area

Area	Only one referral	Both areas	Total
Verbal	65	608	673
Math	61	608	669
Total	126	1,216	1,342

Note: The table shows how many referrers made referrals in only one area versus both areas. “Only one referral” indicates individuals who made referrals exclusively in that area. “Both areas” shows individuals who made referrals in both verbal and math areas. The majority of referrers (608) made referrals in both areas.

Table 4: Summary statistics for network members by nomination status

	Verbal		Math	
	Not Referred	Referred	Not Referred	Referred
Reading z-score	0.070 (0.003)	0.509 (0.039)	0.079 (0.003)	0.465 (0.040)
Math z-score	0.079 (0.003)	0.452 (0.042)	0.087 (0.003)	0.590 (0.043)
GPA z-score	-0.066 (0.003)	0.705 (0.041)	-0.069 (0.003)	0.711 (0.041)
Tie strength z-score	-0.153 (0.003)	2.690 (0.091)	-0.184 (0.003)	2.488 (0.090)
Low-SES	0.334 (0.001)	0.374 (0.019)	0.338 (0.001)	0.384 (0.019)
Med-SES	0.515 (0.001)	0.513 (0.019)	0.513 (0.001)	0.507 (0.019)
High-SES	0.151 (0.001)	0.113 (0.012)	0.149 (0.001)	0.109 (0.012)
Observations	128,174	673	127,481	669

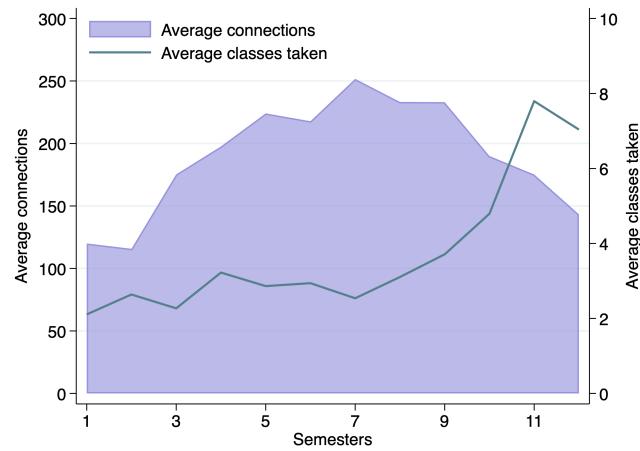
Note: Standard errors in parentheses. GPA, test scores, and tie strength are standardized at the network level. For each referrer's network, we first calculated the mean and standard deviation of each measure. We then computed the average of these means and standard deviations across all referrers. Each individual's score was standardized using these network-level statistics. The standardization formula is $z = (x - \bar{x}_{network})/\sigma_{network}$, where $\bar{x}_{network}$ and $\sigma_{network}$ are the average of network means and standard deviations, respectively. Low-SES, Med-SES, and High-SES are binary variables indicating the share of participants in estrato 1 and 2, 3 and 4, or 5 and 6, respectively. Tie strength measures the number of connections between individuals.

Table 5: Comparison of math and verbal scores by SES group and data source

	Math			Verbal		
	Network	Admin	Sample	Network	Admin	Sample
Low-SES	66.976 (0.052)	61.653 (0.346)	67.813 (0.694)	64.738 (0.043)	60.974 (0.274)	66.058 (0.574)
Mid-SES	65.627 (0.039)	64.531 (0.224)	66.859 (0.580)	63.685 (0.032)	63.154 (0.183)	64.779 (0.436)
High-SES	67.781 (0.077)	67.330 (0.416)	70.610 (1.295)	64.966 (0.063)	64.892 (0.341)	66.397 (1.214)
Observations	128,150	4,415	669	128,847	4,403	673

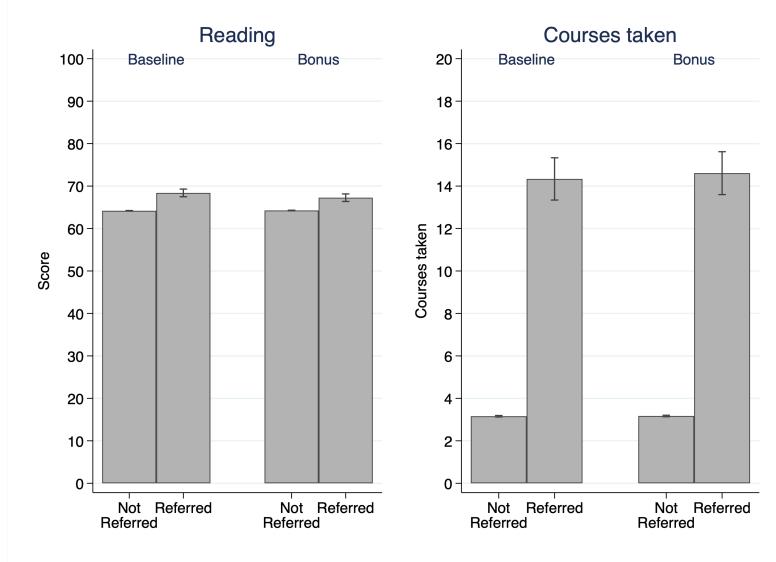
Note: Standard errors in parentheses. The table presents mean scores with standard errors for math and verbal tests across the entire network, the admin data, and the sample. Admin data consistently shows lower scores than both network and the sample across all SES groups consistent with selection, with the largest gaps occurring for the Low-SES. Differences between network and sample scores are generally smaller than those between either and the admin data.

Figure 1: Participant network size and tie strength by time spent at UNAB

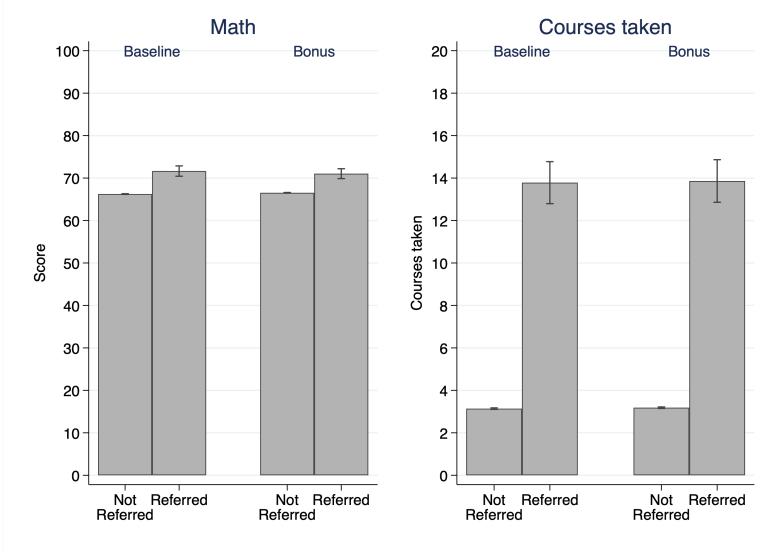


Note: This figure displays the average number of connections for referrers in blue and the average number of classes they have taken together with their connections in green across semesters spent at UNAB. The data shows an increase in the number of classes taken together as students progress in their programs, with the connections peaking around 7 semesters and dropping as certain students finish their bachelor's.

Figure 2: Effect of the Bonus on Referrals



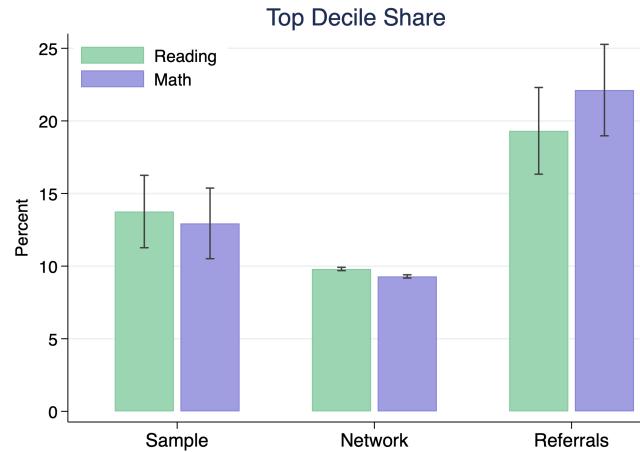
(a) Reading



(b) Math

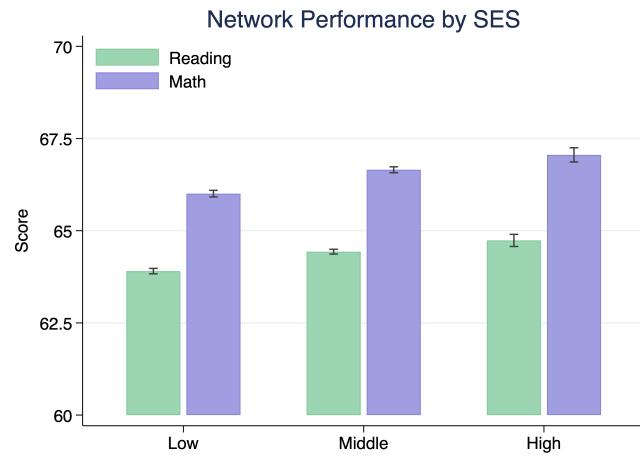
Note: The top panel compares the reading scores and tie strength of referrals across conditions. The bottom panel shows the average standardized math and tie strength of referrals across conditions. We test differences in across conditions using two-sample *t*-tests and find no meaningful differences. For both math and reading, treatment causes no significant changes in referral performance or tie strength.

Figure 3: Top decile performer share across the sample, network and referrals



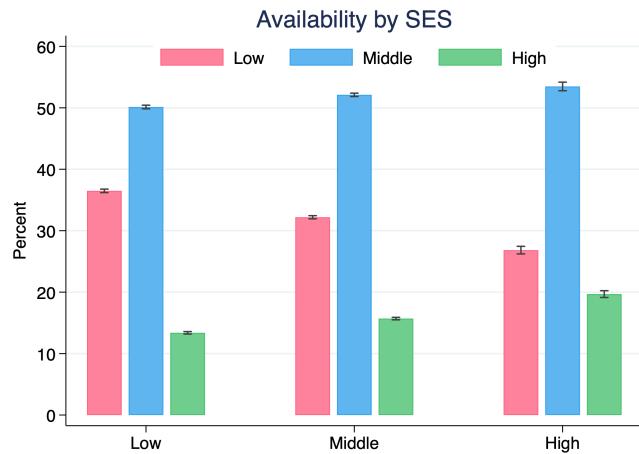
Note: This figure displays the percentage share of top decile individuals according to the admin data across three dimensions. First bar shows referrers in the sample of participants. Second bar is the share of top decile individuals in their networks. Third column shows the share of top decile among the referrals made. We test differences between proportions across these three groups using two-sample tests of proportions. For both math and reading scores, the differences between Sample and Network ($p < 0.001$), Sample and Referrals ($p < 0.005$), and Network and Referrals ($p < 0.001$) are all statistically significant.

Figure 4: Participant network performance by subject and SES



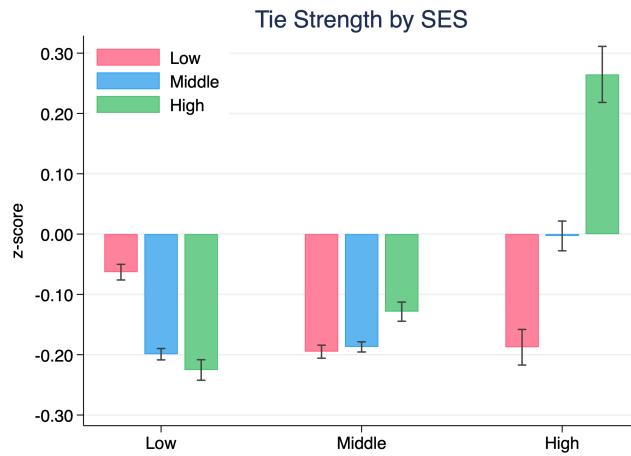
Note: This figure displays the network average math and reading z-scores across referrer SES. We test differences between scores across SES using paired t -tests. For both math and reading scores, all differences between SES groups are statistically significant (all $p \leq 0.001$).

Figure 5: Participant network composition by SES



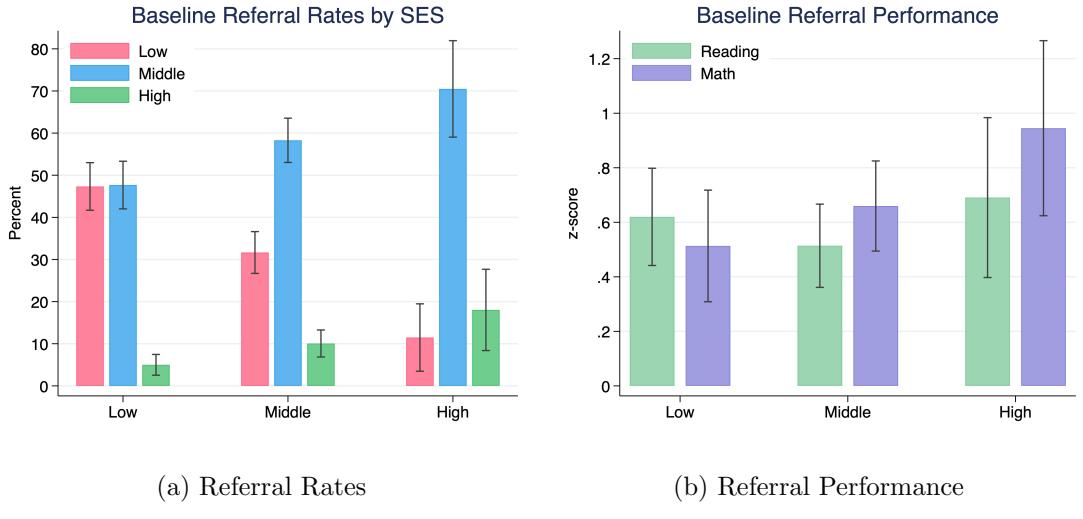
Note: This figure displays the composition of networks by SES. We test differences in proportions of peer connections across SES groups using two-sample tests of proportions. All differences are statistically significant ($p < 0.001$): Low SES students are more likely to connect with Low SES peers than Middle or High SES students; Middle SES students form more connections with Middle SES peers than Low SES students; and High SES students have the highest proportion of High SES connections.

Figure 6: Participant network composition by SES



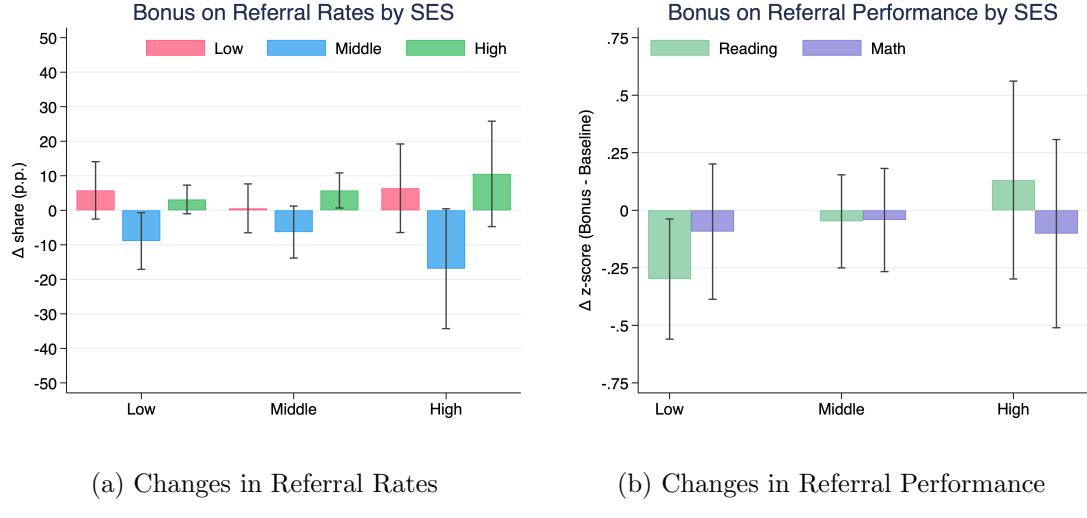
Note: This figure displays the standardized tie strength by SES. We test differences in standardized tie strength across SES groups using two-sample t -tests. All differences are statistically significant ($p < 0.001$) except for the comparison between Middle and High SES students' connections to Low SES peers ($p = 0.65$). The standardized tie strength for High SES students with other High SES students is substantially positive (0.26), while all other tie strengths are negative or near zero.

Figure 7: Baseline Referral Patterns by SES



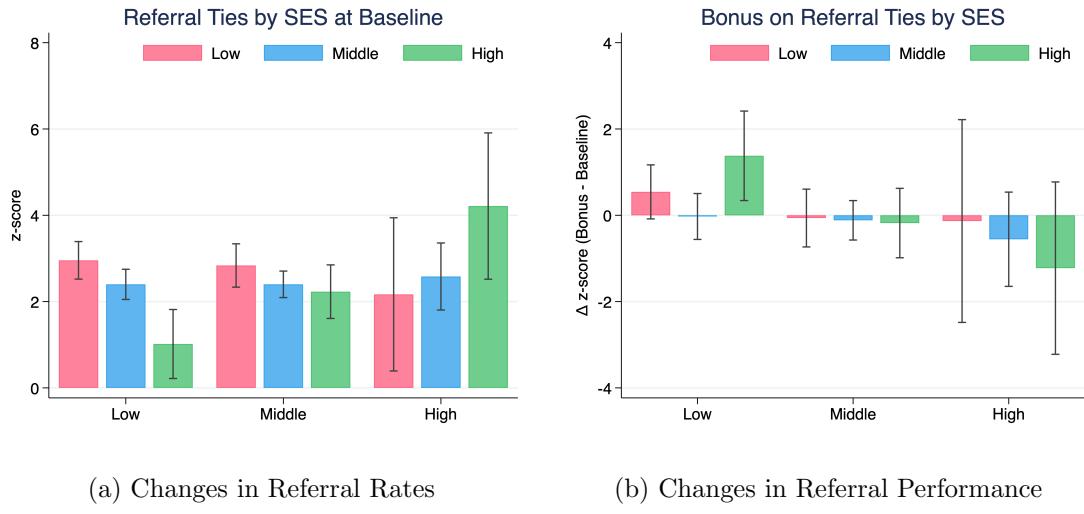
Note: The left panel shows the distribution of referrals across SES in the baseline condition. We test differences in SES shares across SES groups using two-sample tests of proportions. All differences are statistically significant ($p < 0.1$). The right panel shows the average standardized math and reading scores of referred students by referrer's SES. We test differences in z-scores across SES groups using two-sample t -tests and find no statistically significant differences in reading scores across SES groups (all $p > 0.36$). For math scores, we observe marginally significant differences between Low and High SES students ($p = 0.08$) and between Middle and High SES students ($p = 0.18$), with High SES referring peers with higher math performance.

Figure 8: Effect of the Bonus



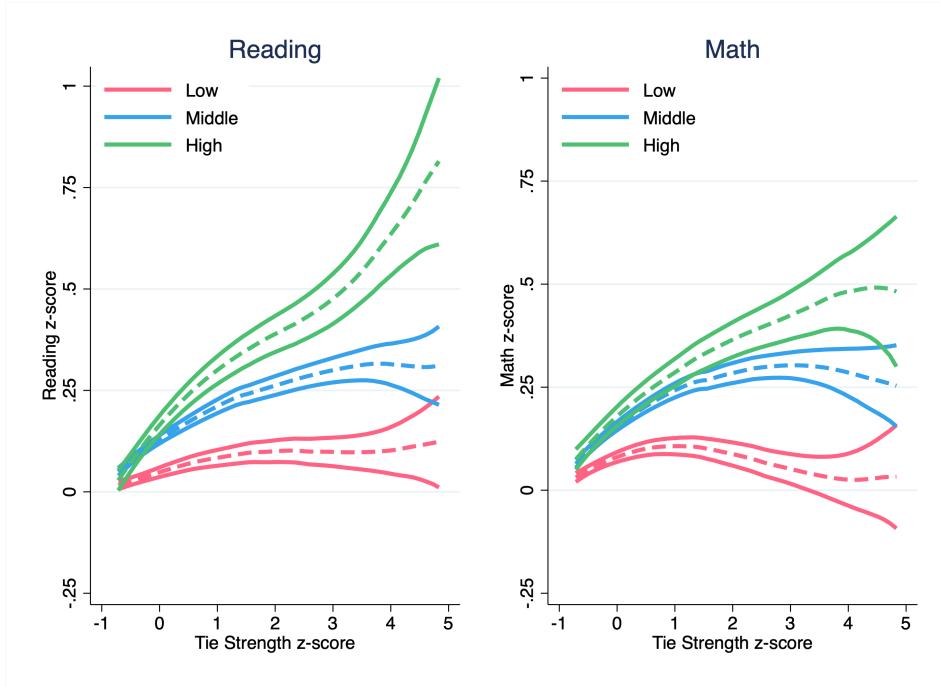
Note: The left panel shows the changes in referral rates across SES. We test differences in SES shares across conditions using two-sample tests of proportions. For Low-SES, only the change in referral share of Middle-SES is statistically significant ($p = 0.034$). For Middle-SES, only the change in referral share of High-SES is statistically significant ($p = 0.027$). For High-SES, only the change in referral share of Middle-SES is statistically significant ($p = 0.059$). The right panel shows the differences in math and reading z-scores across SES. We test differences in SES shares across conditions using two-sample t -tests. For both reading and math scores, the only statistically significant difference is in the reading scores for Low-SES ($p = 0.026$).

Figure 9: Effect of the Bonus on Tie Strength



Note: The left panel shows the changes in referral rates across socioeconomic strata (bonus minus baseline). The right panel shows the differences in average standardized math and reading scores of referred students by referrer's SES.

Figure 10: Performance by Tie Strength and SES



Note: This figure shows local polynomial regressions of network math and reading z-scores by social tie strength across socioeconomic status groups with 95% confidence intervals. Higher SES have steeper positive relationships between tie strength and the average performance those in their network across reading and math scores.

59 **References**

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73 **A Additional Figures and Tables**

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74 **A.1 Additional Figures**

74

75 **B Experiment**

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76 We include the English version of the instructions used in Qualtrics. Participants saw 76
77 the Spanish version. Horizontal lines in the text indicate page breaks and clarifying 77
78 comments are inside brackets. 78

79 **Consent**

79

80 You have been invited to participate in this decision-making study. This study is directed 80
81 by [omitted for anonymous review] and organized with the support of the Social Bee Lab 81
82 (Social Behavior and Experimental Economics Laboratory) at UNAB. 82

83 In this study, we will pay **one (1)** out of every **ten (10)** participants, who will be 83
84 randomly selected. Each selected person will receive a fixed payment of **70,000** (seventy 84
85 thousand pesos) for completing the study. Additionally, they can earn up to **270,000** 85
86 (two hundred and seventy thousand pesos), depending on their decisions. So, in total, 86
87 if you are selected to receive payment, you can earn up to **340,000** (three hundred and 87
88 forty thousand pesos) for completing this study. 88

89 If you are selected, you can claim your payment at any Banco de Bogotá office by 89
90 presenting your ID. Your participation in this study is voluntary and you can leave the 90
91 study at any time. If you withdraw before completing the study, you will not receive 91
92 any payment. 92

93 The estimated duration of this study is 20 minutes. 93

94 The purpose of this study is to understand how people make decisions. For this, we will 94
95 use administrative information from the university such as the SABER 11 test scores of 95
96 various students (including you). Your responses will not be shared with anyone and your 96
97 participation will not affect your academic records. To maintain strict confidentiality, the 97
98 research results will not be associated at any time with information that could personally 98

99 identify you.

99

100 There are no risks associated with your participation in this study beyond everyday risks. 100
101 However, if you wish to report any problems, you can contact Professor [omitted for 101
102 anonymous review]. For questions related to your rights as a research study participant, 102
103 you can contact the IRB office of [omitted for anonymous review]. 103

104 By selecting the option “I want to participate in the study” below, you give your con- 104
105 sent to participate in this study and allow us to compare your responses with some 105
106 administrative records from the university. 106

107 • I want to participate in the study [advances to next page] 107

108 • I do not want to participate in the study 108

109 —————— 109

110 Student Information 110

111 Please write your student code. In case you are enrolled in more than one program 111
112 simultaneously, write the code of the first program you entered: 112

113 [Student ID code] 113

114 What semester are you currently in? 114

115 [Slider ranging from 1 to 11] 115

116 —————— 116

117 [Random assignment to treatment or control] 117

¹¹⁸ **Instructions**

¹¹⁸

¹¹⁹ The instructions for this study are presented in the following video. Please watch it ¹¹⁹
¹²⁰ carefully. We will explain your participation and how earnings are determined if you are ¹²⁰
¹²¹ selected to receive payment. ¹²¹

¹²² [Treatment-specific instructions in video format] ¹²²

¹²³ If you want to read the text of the instructions narrated in the video, press the “Read ¹²³
¹²⁴ instruction text” button. Also know that in each question, there will be a button with ¹²⁴
¹²⁵ information that will remind you if that question has earnings and how it is calculated, ¹²⁵
¹²⁶ in case you have any doubts. ¹²⁶

¹²⁷ • I want to read the instructions text [text version below] ¹²⁷

¹²⁸ ————— ¹²⁸

¹²⁹ In this study, you will respond to three types of questions. First, are the belief questions. ¹²⁹
¹³⁰ For belief questions, we will use as reference the results of the SABER 11 test that you ¹³⁰
¹³¹ and other students took to enter the university, focused on three areas of the exam: ¹³¹
¹³² mathematics, reading, and English. ¹³²

¹³³ For each area, we will take the scores of all university students and order them from ¹³³
¹³⁴ lowest to highest. We will then group them into 100 percentiles. The percentile is a ¹³⁴
¹³⁵ position measure that indicates the percentage of students with an exam score that is ¹³⁵
¹³⁶ above or below a value. ¹³⁶

¹³⁷ For example, if your score in mathematics is in the 20th percentile, it means that 20 ¹³⁷
¹³⁸ percent of university students have a score lower than yours and the remaining 80 percent ¹³⁸
¹³⁹ have a higher score. A sample belief question is: “compared to university students, in ¹³⁹
¹⁴⁰ what percentile is your score for mathematics?” ¹⁴⁰

¹⁴¹ If your answer is correct, you can earn 20 thousand pesos. We say your answer is correct ¹⁴¹

142 if the difference between the percentile you suggest and the actual percentile of your 142
143 score is not greater than 7 units. For example, if you have a score that is in the 33rd 143
144 percentile and you say it is in the 38th, the answer is correct because the difference is 144
145 less than 7. But if you answer that it is in the 41st, the difference is greater than 7 and 145
146 the answer is incorrect. 146

147 The second type of questions are recommendation questions and are also based on the 147
148 mathematics, reading, and English areas of the SABER 11 test. We will ask you to think 148
149 about the students with whom you have taken or are taking classes, to recommend from 149
150 among them the person you consider best at solving problems similar to those on the 150
151 SABER 11 test. 151

152 When you start typing the name of your recommended person, the computer will show 152
153 suggestions with the full name, program, and university entry year of different students. 153
154 Choose the person you want to recommend. If the name doesn't appear, check that you 154
155 are writing it correctly. Do not use accents and use 'n' instead of 'ñ'. If it still doesn't 155
156 appear, it may be because that person is not enrolled this semester or because they did 156
157 not take the SABER 11 test. In that case, recommend someone else. 157

158 You can earn up to 250,000 pesos for your recommendation. We will multiply your 158
159 recommended person's score by 100 pesos if they are in the first 50 percentiles. We will 159
160 multiply it by 500 pesos if your recommended person's score is between the 51st and 160
161 65th percentile. If it is between the 66th and 80th percentile, we will multiply your 161
162 recommended person's score by 1000 pesos. If the score is between the 81st and 90th 162
163 percentile, you earn 1500 pesos multiplied by your recommended person's score. And if 163
164 the score is between the 91st and 100th percentile, we will multiply your recommended 164
165 person's score by 2500 pesos to determine the earnings. 165

166 The third type of questions are information questions and focus on aspects of your 166
167 personal life or your relationship with the people you have recommended. 167

Earnings

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169 Now we will explain who gets paid for participating and how the earnings for this study 169
170 are assigned. The computer will randomly select one out of every 10 participants to pay 170
171 for their responses. For selected individuals, the computer will randomly choose one of 171
172 the three areas, and from that chosen area, it will pay for one of the belief questions. 172

173 Similarly, the computer will randomly select one of the three areas to pay for one of the 173
174 recommendation questions. 174

175 **Additionally, if you are selected to receive payment, your recommended per- 175
176 son in the chosen area will receive a fixed payment of 100 thousand pesos. 176
177 [Only seen if assigned to the treatment] 177**

178 Each person selected to receive payment for this study can earn: up to 20 thousand pesos 178
179 for one of the belief questions, up to 250 thousand pesos for one of the recommendation 179
180 questions, and a fixed payment of 70 thousand pesos for completing the study. 180

181 Selected individuals can earn up to 340 thousand pesos. 181

182 _____ 182

183 [Participants go through all three Subject Areas in randomized order] 183

Subject Areas

184

Critical Reading 185

186 For this section, we will use as reference the Critical Reading test from SABER 11, which 186
187 evaluates the necessary competencies to understand, interpret, and evaluate texts that 187
188 can be found in everyday life and in non-specialized academic fields. 188

189 [Clicking shows the example question from SABER 11 below] 189

190 Although the democratic political tradition dates back to ancient Greece, political 190
191 thinkers did not address the democratic cause until the 19th century. Until then, democ- 191
192 racy had been rejected as the government of the ignorant and unenlightened masses. 192
193 Today it seems that we have all become democrats without having solid arguments in 193
194 favor. Liberals, conservatives, socialists, communists, anarchists, and even fascists have 194
195 rushed to proclaim the virtues of democracy and to show their democratic credentials 195
196 (Andrew Heywood). According to the text, which political positions identify themselves 196
197 as democratic? 197

- 198 • Only political positions that are not extremist 198
199 • The most recent political positions historically 199
200 • The majority of existing political positions 200
201 • The totality of possible political currents 201

202 —————— 202

203 Mathematics 203

204 This section references the Mathematics test from SABER 11, which evaluates people's 204
205 competencies to face situations that can be resolved using certain mathematical tools. 205

206 [Clicking shows the example question from SABER 11 below] 206

207 A person living in Colombia has investments in dollars in the United States and knows 207
208 that the exchange rate of the dollar against the Colombian peso will remain constant 208
209 this month, with 1 dollar equivalent to 2,000 Colombian pesos. Their investment, in 209
210 dollars, will yield profits of 3% in the same period. A friend assures them that their 210
211 profits in pesos will also be 3%. Their friend's statement is: 211

- 212 • Correct. The proportion in which the investment increases in dollars is the same 212
213 as in pesos. 213

- Incorrect. The exact value of the investment should be known. 214
 - Correct. 3% is a fixed proportion in either currency. 215
 - Incorrect. 3% is a larger increase in Colombian pesos. 216

217 217

218 English 218

219 This section uses the English test from SABER 11 as a reference, which evaluates that 219
220 the person demonstrates their communicative abilities in reading and language use in 220
221 this language. 221

222 [Clicking shows the example question from SABER 11 below] 222

223 Complete the conversations by marking the correct option.

- Conversation 1: I can't eat a cold sandwich. It is horrible!
 - I hope so.
 - I agree.
 - I am not.
 - Conversation 2: It rained a lot last night!
 - Did you accept?
 - Did you understand?
 - Did you sleep?

[Following parts are identical for all Subject Areas and are not repeated here for brevity] 233

234 **Your Score**

234

235 Compared to university students, in which percentile do you think your [Subject Area] 235
236 test score falls (1 is the lowest percentile and 100 the highest)? 236

237 [Clicking shows the explanations below] 237

238 How is a percentile calculated? 238

239 A percentile is a position measurement. To calculate it, we take the test scores for all 239
240 students currently enrolled in the university and order them from lowest to highest. The 240
241 percentile value you choose refers to the percentage of students whose score is below 241
242 yours. For example, if you choose the 20th percentile, you're indicating that 20% of 242
243 students have a score lower than yours and the remaining 80% have a score higher than 243
244 yours. 244

245 What can I earn for this question? 245

246 For your answer, you can earn **20,000 (twenty thousand) PESOS**, but only if the 246
247 difference between your response and the correct percentile is less than 7. For example, if 247
248 the percentile where your score falls is 33 and you respond with 38 (or 28), the difference 248
249 is 5 and the answer is considered correct. But if you respond with 41 or more (or 25 or 249
250 less), for example, the difference would be greater than 7 and the answer is incorrect. 250

251 Please move the sphere to indicate which percentile you think your score falls in: 251

252 [Slider with values from 0 to 100] 252

253

 253

254 **Recommendation**

254

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

255

256

257

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

258

259

260

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

261

262

263 [Clicking shows the explanations below]

263

264 Who can I recommend?

264

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

265

266

267

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

268

269

270

271

272

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

273

274

275

276 My earnings for this question?

276

277 For your recommendation, you could receive earnings of up to 250,000 (two hundred and 277
278 fifty thousand) PESOS. The earnings are calculated based on your recommendation's 278
279 score and the percentile of that score compared to other UNAB students, as follows: 279

- 280 • We will multiply your recommendation's score by \$100 (one hundred) pesos if it's 280
281 between the 1st and 50th percentiles 281
- 282 • We will multiply your recommendation's score by \$500 (five hundred) pesos if it's 282
283 between the 51st and 65th percentiles 283
- 284 • We will multiply your recommendation's score by \$1000 (one thousand) pesos if 284
285 it's between the 66th and 80th percentiles 285
- 286 • We will multiply your recommendation's score by \$1500 (one thousand five hun- 286
287 dred) pesos if it's between the 81st and 90th percentiles 287
- 288 • We will multiply your recommendation's score by \$2500 (two thousand five hun- 288
289 dred) pesos if it's between the 91st and 100th percentiles 289

290 This is illustrated in the image below: 290

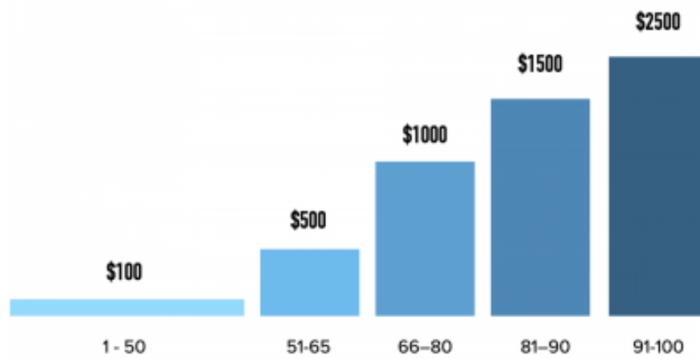


Figure B.1: Earnings for recommendation questions

291 For example, if your recommendation got 54 points and the score is in the 48th percentile, 291

292 you could earn $54 \times 100 = 5400$ PESOS. But, if the same score of 54 points were in the 292
293 98th percentile, you could earn $54 \times 2500 = 135,000$ PESOS. 293

294 [Text field with student name suggestions popping up as participant types] 294

295 ————— 295

296 Relationship with your recommendation 296

297 How close is your relationship with your recommendedation: “[Name of the student 297
298 selected from earlier]”? (0 indicates you are barely acquaintances and 10 means you are 298
299 very close) 299

300 [Slider with values from 0 to 10] 300

301 ————— 301

302 Your recommendation's score 302

303 Compared to university students, in which percentile do you think [Name of the student 303
304 selected from earlier]’s score falls in the **[Subject Area]** test (1 is the lowest percentile 304
305 and 100 the highest)? 305

306 [Clicking shows the explanations below] 306

307 How is a percentile calculated? 307

308 A percentile is a position measurement. To calculate it, we take the test scores for all 308
309 students currently enrolled in the university and order them from lowest to highest. The 309
310 percentile value you choose refers to the percentage of students whose score is below 310
311 yours. For example, if you choose the 20th percentile, you’re indicating that 20% of 311
312 students have a score lower than yours and the remaining 80% have a score higher than 312
313 yours. 313

314 What can I earn for this question?

314

315 For your answer, you can earn **20,000 (twenty thousand) PESOS**, but only if the 315
316 difference between your response and the correct percentile is less than 7. For example, 316
317 if the percentile where your recommended person's score falls is 33 and you respond with 317
318 38 (or 28), the difference is 5 and the answer is considered correct. But if you respond 318
319 with 41 or more (or 25 or less), for example, the difference would be greater than 7 and 319
320 the answer is incorrect. 320

321 Please move the sphere to indicate which percentile you think your recommended per- 321
322 son's score falls in: 322

323 [Slider with values from 0 to 100] 323

324 ————— 324

325 Demographic Information 325

326 What is the highest level of education achieved by your father? 326

327 [Primary, High School, University, Graduate Studies, Not Applicable] 327

328 What is the highest level of education achieved by your mother? 328

329 [Primary, High School, University, Graduate Studies, Not Applicable] 329

330 Please indicate the socio-economic group to which your family belongs: 330

331 [Group A (Strata 1 or 2), Group B (Strata 3 or 4), Group C (Strata 5 or 6)] 331

332 ————— 332

333 UNAB Students Distribution

333

334 Thinking about UNAB students, in your opinion, what percentage belongs to each socio- 334
335 economic group? The total must sum to 100%: 335

336 [Group A (Strata 1 or 2) percentage input area] 336
337 [Group B (Strata 3 or 4) percentage input area] 337
338 [Group C (Strata 5 or 6) percentage input area] 338
339 [Shows sum of above percentages] 339

340 _____ 340

341 End of the Experiment

341

342 Thank you for participating in this study. 342

343 If you are chosen to receive payment for your participation, you will receive a confirma- 343
344 tion to your UNAB email and a link to fill out a form with your information. The process 344
345 of processing payments is done through Nequi and takes approximately 15 business days, 345
346 counted from the day of your participation. 346

347 [Clicking shows the explanations below] 347

348 Who gets paid and how is it decided? 348

349 The computer will randomly select one out of every ten participants in this study to be 349
350 paid for their decisions. 350

351 For selected individuals, the computer will randomly select one area: mathematics, 351
352 reading, or English, and from that area will select one of the belief questions. If the 352
353 answer to that question is correct, the participant will receive 20,000 pesos. 353

354 The computer will randomly select an area (mathematics, critical reading, or English) to 354
355 pay for one of the recommendation questions. The area chosen for the recommendation 355
356 question is independent of the area chosen for the belief question. The computer will 356
357 take one of the two recommendations you have made for the chosen area. Depending on 357
358 your recommendation's score, you could win up to 250,000 pesos. 358

359 Additionally, people selected to receive payment for their participation will have a fixed 359
360 earnings of 70,000 pesos for completing the study. 360

361 _____ 361

362 **Participation** 362

363 In the future, we will conduct studies similar to this one where people can earn money 363
364 for their participation. The participation in these studies is by invitation only. Please 364
365 indicate if you are interested in being invited to other studies similar to this one: 365

366 [Yes, No] 366