Out of sight, out of mind:
Do students believe in career prospects by studying on campus?

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Rotterdam / Papendrecht, August 21, 2015

Abstract

Most studies analyze the impact of working from home on workers' career prospects with their current employers. Other studies show the importance of job referrals by social networks. I investigate the impact of studying on-campus on career prospects with (potential) future employers. To investigate the issue, I designed and conducted a survey experiment among 225 first year undergraduate students at a large European University in 2015. I find that social skills are perceived to be more important than performance in referring peers for jobs. However, despite a treatment that suggest that studying on-campus can overcome the working from home penalty, students continue to opt to study from home to signal their capabilities through their grades. I conclude that students may study hard to get into jobs, but do not adhere to signaling (social) skills on-campus which seems to be about as important to make career.

Key concepts: career, campus, home, job referral, signaling, sorting, studying

Master's Thesis Economics of Management and Organisation

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Preface

I gratefully acknowledge the Erasmus School of Economics and especially Dr. B. Karreman, Dr. B. Hoogendoorn and Drs. N. Twigt for allowing me to survey first-year students in Economics during tutorials. I also gratefully acknowledge the Erasmus School of Accounting & Assurance and especially Dr. P.Y.E. Leung, drs. T.P.M. Welten and Bsc. D.J. de Vries for theirs among second-year students in Economics. I thank the Teaching Assistants and Bram Coenen, Evi Kogia, Maarten van Heumen, Anthony Medina, Subhadra Pathak, Joy Riske, Thomas de Vries and Victor Zuiddam for their assistance in surveying students. I would like to thank all participating students to fill them out. Your effort has been highly appreciated. I thank Bob Boelens, Bart Francke, Sander van Heteren, Nicky Hoogveld and Anthony Medina for their helpful comments. I am more than grateful to be supervised by Dr. S.V. Kapoor, who taught me valuable insights and tools to think critically, which I appreciate a lot. At last, I would like to thank my parents, Jan and Ankie Riske, to give me the opportunity to study. I cannot be more grateful.

Content

1. Introduction

Working out of sight offers workers less career prospects by means of promotions than working on sight (Bloom, Liang, Roberts, & Ying, 2015). Bloom et al. (2015) experimentally find that random selected willingly home-workers are promoted 50% less compared to identical office-workers conditional a 13% increase in performance. This suggests that evaluators do not only care about workers' performance in getting them promoted. Generalizing this finding to students makes me sceptically whether studying from home is enough to get into jobs, preferably conditional their academic performance. In The New York Times (2013) Schwartz reports that it is nowadays not only what students know, but who they know (Schwartz, 2013). The idea is that employed social relations can be the bridge to fill the asymmetric information gap between employers and workers. In fact, companies like Deloitte and Ernst & Young hire about 50% through job referrals about potential candidates from their own network of current employees. Referred applicants are getting interviewed even twice as much as non-referred applicants and are eventually 40% more likely to get the job (Brown, Stren, & Topa, 2012). Besides, companies are willing to pay workers to refer potentials. These findings show that it is not only beneficial to study hard, but beneficial to invest in ''employees (who) make referrals for you if you want to find a job'', as being put by John Sullivan, a professor of management at San Francisco State University (Schwartz, 2013, pp. 2, 3). Though, by studying from home students seem not to be likely to invest in such social connections. By studying on-campus, however, students can surround themselves with other students who can. This suggests that studying on-campus can boost students' careers. Interestingly, no research has been done to how studying on-campus affects career prospects. In contribution, I investigate the research question: *Do students believe in career prospects by studying on-campus?*

To investigate this, I designed and conducted a survey experiment among 225 undergraduate students in Economics at a large European university in 2015. My special interest is whether students adhere to a random provided treatment that suggests that studying on-campus can overcome a well known working from home promotion penalty by means of studying (more) on-campus themselves and refer peers who study on-campus instead of home. In order to investigate this, I ask undergraduates during tutorial sessions over two weeks time to fill out surveys. Questions are about students' study behaviour and risk aversion, but also about

referring fictively students they go along with, who differ in study locations, to (potential) future employers.

I find that students prefer to study from home and expect to signal their capabilities by doing this. Students seem to study on-campus to ask for advice and talk about their studies. Although they realize the importance of social skills besides performance in referring peers, being treated does not sort student to study on-campus. However, treated students seem to minimally adhere (t-test, $p = 0.10^*$) in preferring an on-campus studying student over an at home-studying student. I conclude that students understand the importance of social skills in getting a job by means of job referrals, but do not adhere to them by studying (more) on-campus instead of home.

1.1 Motivation

The motivation to study this research question is threefold. First, I want to contribute to the rich economic and sociological literature about working from home and job referrals by studying its relation to another. Second, I want to make students familiar with the possibly missed network opportunities to get a job by means of studying from home. Since students are expected to study (hard) to boost their career by graduating with high grades, they should be interested in how studying on-campus affects career prospects. In fact, Lazear and Gibbs (2009) state that starters in the labour market, say students, should be the ones most concerned about making career (Lazear & Gibbs, 2009). This research might provide students insights in how studying from home affect their career. If it does, this research can be taken into account while maximizing career prospects by choosing a certain location to study or work from. Third, I want to make universities aware of the possible increases of students' careers by studying on-campus. The results of this study can be useful in designing new study places on-campus to stimulate students to study on-campus and consequently to boost the university's world ranking in getting students into jobs right after graduation.

1.2 Outline

This paper continues as follows. In Chapter 2, I review the theory written so far related to working from home and job referrals and how this paper contributes. Chapter 3 describes the experimental design. I write about the data and methodology in respectively Chapters 4 and 5. In Chapter 6, I present my results. I discuss these findings in Chapter 7. I conclude in Chapter 8. In Chapter 9, I give recommendations and suggest further research. Chapters 10 and 11

show respectively my references and appendix.

2. Theory and contribution

Lazear and Gibbs (2009) provide two reasons why career prospects by means of promotions can be useful: they motivate workers to work hard and coordinate them into jobs they are expected to perform better (Lazear & Gibbs, 2009). However, the best performer in the current job does not have to be the best performer in the promoted job. This makes promotion decisions a trade-off between motivational and coordination concerns, which can be useful in explaining the lower promotion rates of home-workers in the experiment by Bloom et al. (2015).

2.1 Working from home penalty

Bloom et al. (2015) provide three possible explanations why home-workers are promoted less than identical office-workers conditional a 13% increases in performance. First, Bloom et al. (2015) mention that workers who are out of sight, might simply be forgotten. In other words, this suggests that home-workers are promoted less than office-workers since they are not observed at work. This argument is exactly what workers and managers of the experiment state in interviews to be most likely. Riske (2015) finds suggestive evidence this to be true (Riske, 2015). Riske (2015) finds that home-workers, while controlling for performance, gender, tenure and schooling, are promoted much less concavely over tenure than identical tenured office-workers (Riske, 2015) (see Appendix A - Figure 1). At the maximum, tenured home-workers' are even 20% less promoted than identical tenured office-workers. This finding suggests that working out of sight, makes evaluators forget about taking home-workers into promotion decisions. My reasoning is as follows. While working on-sight before the experiment starts, workers connect with each other. This makes evaluators evenly familiar with identical tenured home- and office-workers in advance of promotion decisions. This would suggest that both workers' promotion rates conditional their tenure would show (more or less) the same pattern. In contrast, home-workers' promotion rates look barely similar. This finding suggests that home-workers are just not as interesting to be promoted as office-workers, which makes them being forgotten. Hence, motivational and coordination arguments seem not to hold here.

Second, Bloom et al. (2015) suggest that home-workers are not perceived to gain social skills important in promoted jobs. This is because home-workers are expected to professionally or socially connect with co-workers, but working from home makes them less likely. Since the promoted job would be the role of supervisor or another higher rank job, social skills seem to be a pre to be able to manage and work with workers. This argument suggests that home-workers are expected not to gain and invest in social skills as much as office-workers. This makes home-workers exactly where the company wants them to be: at home.

Third, Bloom et al. (2015) mention that home-workers might just not be motivated enough to be promoted, since they have to sort back to the office for it. This would suggest that workers find themselves where they want to be and that promotions are not valuable enough for them to return to the office for. In fact, in this experiment all workers are monetarily incentivized to work hard by an incentive scheme apart from promotions. This means that the only motivation that comes from promotions, can be due to nonmonetary rewards such as status and job satisfaction. This makes the motivational role of promotions to work hard in line with Lazear and Gibbs (2009) very unlikely.

The findings by Bol (2011) may underline why working on-sight is important to make career (Bol, 2011). Bol (2011) shows that managers positively evaluate workers' performance based on the strenght of the relationships with workers. This suggest that workers not working on-sight forgo career prospects by being less in social contact with their colleagues.

2.2 Learning and sorting

Bloom et al. (2015) shows learning and consequently sorting effects of workers due to the experiment. When workers are able to re-select their location to work after the experiment, half of the workers switches. Workers who (fear to) lack to invest in social relations with colleagues and lack productivity at home sort to the office, whereas workers who prefer to work in a quiet work environment and think it is convienient to be at home, work from home. Interestingly, career concerns have not been noticed, suggesting that home-workers do not care as much about them to sort back to the office. However, this is a reason workers state not to work from home in the first place. Hence, working from home seems to be benefical for workers who can motivate themselves to perform well from home and care less about being promoted. The opposite holds for workers who prefer to work on-sight.

Students face the same sorting decisions: to study from home or somewhere else. In my bachelor study, I show that students sort themselves to study on-campus when they appreciate having other students around and perceive their study to be more difficult (Riske, 2014). I also find that studying on-campus makes students to avoid distractions from home. In reverse, students who prefer to study from home, study from home (Riske, 2014). However, the main difference with the home-workers in the experiment by Bloom et al. (2015) seems to me that home-studying students are still ambitious to make a career, whereas the home-workers may be not. However, studying from home makes students less likely to be observed and hence, more likely to be forgotten in job referrals compared to identical on-campus studying students.

2.3 Why job referrals are important for organisations

Montgomery (1991) models how job referrals as a screening devise can overcome hiring the wrong employees by organisations (Montgomery, 1991). Montgomery's (1991) reasoning is that organisations can learn from workers who knows more about potentials' performance and are unlikely to refer potentials that are not suitable for the job. Montgomery explains this by the reasoning of Rees (1966), who says that employed workers only refer good workers because they fear reputational loss when they do not (Rees, 1966). Consequently, firms are able offer a lower wages during probation and wages conditional referred workers' capabilities afterwards not to be attractive for uncapable referred workers. This suggests that by investing in bigger and densed social ties, can benefit both firms and potential candidates.

Burks et al. (2015) summarizes three theories why organisations hire employees through social networks (Burks, Cowgill, Hoffman, & Housman, 2015). The first two suggest a learning theory and a homophily theory. The first suggests that learning about the referred potentials' capabilities is less costly when a trustworthy worker refers a candidate who he is familiar with the right person for the job. The second theory suggests that referrals choose to refer people just like them, which makes them likely to suit the organisation. The third theory is about peer effects. This theory suggest that workers may benefit from each other by working in the same organisation, for example by mentoring or by increased job satisfaction. Consequently, referred workers make less mistakes and seem to be at least as productive as non-referred workers. Overall, they find that referred workers are much more profitable compared to non-referred workers, most likely due to lower screening costs as a consequence of lower quits and fires. Higher performing employed workers seem to make more qualitative

referrals. This suggests that referrals might not always be as qualitative.

2.4 Who refers who?

Oyer and Scaefer (2012) show that referrals about peers are just what organisations are looking for (Oyer & Scaefer, 2012). They find that large American law firms hire especially from the same universities the companies' partners took education. This result holds even more for the ''more prestigious and profitable firms'' because hiring top talent is of much more concern for them (Oyer & Scaefer, 2012, p. 35). The reasoning is that partners require potential hires to have the same skill set they have been educated at university. Beaman & Magruder (2012) find that especially ''young, well educated and high-cognitive ability referrals'' are able to refer the most valuable workers (Beaman & Magruder, 2012, p. 3576). However, they did only when preperly incentivized. In contrast, lower able workers are less able to refer the right workers since they lack knowledge about which peer works better.

Granovetter (1973) discusses the strength of social ties in job referrals (Granovetter, 1973). He elaborates that especially weak ties increase the odds of getting the job, because information spreads easier via higher, though weaker linked social networks. Such weak ties can be especially formed with colleagues from university or work, which makes them suitable to refer their peers for jobs (Granovetter, 1995). Strong ties, however, spent more time together and invest less in socially connecting with others which makes word-on-mouth less likely. However, this job referral's quality should be much better. This reasoning suggest to me a trade-off between the quantity and quality of job referrals.

Granovetter (1995) also shows that people refer ties over more than eight years time and when only being rarely in contact. This suggest that investing in social ties on-campus can be benefical over years. Combinding the results of Beaman & Magruder (2012) with Granovetter (1973) suggests that there might be students who are not able to make the right referral decisions in my survey experiment to be able to generalize job referrals by these students over time. In fact, students are still likely to lack serious work experience, which makes them not knowingly what is important to their (potential) future employers. Although Granovetter (1995) shows that referrals last over time, suggesting that perceptions remain rather fixed, it may be that students' job referrals will still differ continuously over time, while forming their expectations about real work responsibilities.

2.5 Contribution

I contribute the literature threefold. First, by investigating how social aspects like help or advise about studies, social talks and showing capabilities matter in students' choices to study on-campus. According to theory, these aspects should be all important reasons to study on-campus to increase the odds to be referred later in their career. Second, by investigating sorting effects of students who are randomly treated how studying on-campus can boost their career. Since the treatment shows a belief, an expectation that lacks proof, I expect that especially risk-averse students adhere to the treatment to get the possible benefits with more certainty (Rohde, 2014). I also expect that students with lower performance sort into campus, whereas the better students take their chances with performing well at home. I hypothesize in line with Bloom et al. (2015) and Riske (2014):

H1a: Treated risk-averse students are more likely to study on-campus.
H1b: Treated students with lower grades are more likely to study on-campus.

Second, I study wether treated students refer colleagues who study on-campus or at home for a future job and to what extent perceived productivity, being forgotten, showing (social) capabilities and ambitiousness conditional the fictive students' locations affect students' referral choices. Hence, I hypothesize in line with the results of Bloom et al. (2015):

H2a: Students studying from home are more likely to be perceived to be productive
H2b: Students studying from home are more likely to be perceived to be out of mind.
H2c: Students studying from home are less likely to be perceived to show their capabilities.
H2d: Students studying from home are less likely to be perceived to be ambitious.
H2e: Treated students are more likely to refer an on-campus studying student instead of an home-studying student.

Overall, these findings could provide new and valuable insights about learning and sorting effects of students who believe that studying on-campus can boost careers when not being forgotten at home.

3. Experimental design

I collect data by means of a survey experiment (see Appendices B and C), which is a cost effective tool to come closer to causal relations over time by lack of other data. In this experiment, I ask the same students to fill out two surveys over two weeks time. These surveys contain questions about participation (both parts 1 in first and second survey), study behaviour (both parts 2 in the first and second survey), risk attitude (part 3 in the first survey only) and choice situations (respectively parts 4 and 3 in first and second survey) about whether to prefer to refer a an on-campus or from home studying student. A random half of the students receives a treatment on class-level, including information how studying on-campus can overcome the working from home promotion penalty, whereas the others do not. This treatment is included just before the choice situations in the first survey. This makes it possible to compare the reasoning of choice decisions between treated and non-treated students on cross-sectional level. By asking questions about their own study behaviour over time, I can investigate whether treated students sort themselves to study on-campus.

3.1 Treatment

The treatment presents students the main ‘‘out of sight, out of mind’’ results by Bloom et al. (2015) (see part 4 of survey 1 in Appendix B). This piece of information states that Bloom et al. (2015) find that workers working from home are 6.5% less promoted than identical workers working from the office. It also says that this is most likely due to that home-workers are being forgotten. To conclude the treatment, I suggest that studying on-campus, can boost students’ career. I include illustrative a photo of the library of the Erasmus University Rotterdam (Erasmus University Rotterdam).

3.2 Choice decisions

In the first survey, I present two choice situations (see parts 4 and 5). The first choice situation asks students to suppose to refer a student they go along with a (potential) future employer for a job, or to hire one themselves when expected to be self-employed (see survey question 19). By asking to suppose this situation to happen in about ten years time, it makes students non-competitors with the fictive students for any jobs right after graduation (Calvo-Armengol & Jackson, 2004). In the first choice situation, fictive students’ performance and sociability conditions differ on student-level (noted in the appendix as […]) to make students less

obvious which student to refer. This means that each fictive student receives better or less grades than the other and is more or less sociable. By randomization, these fictive students should be average. I frame these fictive students to study five days per week on-campus and not during the weekends to control for students who are not able to encounter on-campus students during the weekends. In the second choice situation, I ask to choose between two identical fictive students, differencing only in study location (see survey question 22). This means that the second fictive student studies usually four days per week at home instead of on-campus and one on-campus. By comparing job referrals between the two choice situations, I can check whether study location affects referrals since this is the only difference between the two fictive students.

3.3 Between student design

I try to capture potential talks between treated and non treated students by randomly assigning the treatment within about a third of the classes. The main advantage of this is that potential spillover effects of students in the mix group who talk with other students about the treatments can be observed. Overall, I use 12 different treated survey designs (see Appendix D – Table 1).

3.4 Sample

Participating students are first- and second year students in Economics of the Erasmus University Rotterdam in The Netherlands. This makes my sample a quite homogenous group. This means that the students in the sample have approximately the same (educational) background, the same age, interests and job perspectives after graduation, which makes controlling for such factors less important. Experimentally surveying identical students makes them a very nice sample to investigate career concerns by means of job referrals since they are identical peers who are familiar with each other (Burks, Cowgill, Hoffman, & Housman, 2015; Oyer & Scaefer, 2012; Granovetter, 1995).

3.5 Pre-tests

I test the survey experiment among 47 students over a week time. Most of the students who test the surveys are in Business, one of the most related studies to Economics. Important to me is that the questions would be clear and self-explaining. Besides these tests, I talked with some students about how to optimize the survey. I learned that students were not eager to give their student numbers without providing them with incentives. After making adjustments, I

ran the survey experiment.

3.6 Data collection

I encounter first- and second year students during their tutorials. This makes encountering about 20-25 students per class possible with little non-response. To increase the odds of surveying the same students twice, I ask the coordinators of the courses for permission. They informed the tutorial lecturers about my visit during their tutorials. This made all lecturers willing to participate.

My first interest is in first-year students, since they are obliged to attend at least 70% of their tutorial sessions, which makes them more approachable and identifiable over time. Although experimentally surveying second-year students would be interesting since they are closer to the labour market, they are less likely to take tutorials because they are only obliged when having an overall grade below 7 in their first year. This makes the selection effect of first-year students much lower than the selection effect of second-years.

Surveys are filled out during the breaks of the tutorials or at the beginning of the sessions. First-year students filled out surveys in weeks 22 and 24, whereas second-year students did during weeks 23 and 25. Most of the surveys are handed out by myself, otherwise by friends or teaching assistants. Anytime, my friends and I introduced ourselves by name, by telling to be a student and/or to be a friend, followed by asking the students kindly to fill out a survey for research purposes about their study behaviour personally. Although I have the feeling that most students were still willing to fill out surveys, herd behaviour probably lowers the non-response in filling out the first survey. Obviously, the willingness to participate decreases in the second survey round, although almost all students encountered filled them out. Students discussed their answers while filling them out rarely. The students are examined in week 26.

4. Data

4.1 Participation

474 students filled out a survey. In order to get students to participate with their student numbers to identify them over time, I used incentives (see Appendix D - Table 2). I randomly assigned three times € 10,00 among the participating students and I will send the results of

this study to them who state to be interested[1] (see respectively questions 1 to 3 and 1 in survey 1 and 2). In a note I ask them friendly to fill out their student numbers in case they are not interested in any of these gestures. The willingness of my supervisor to put his name on the surveys made filling out student numbers more trustworthy.

4.2 Data cleaning

352 students filled out both surveys successfully, 122 only the first of whom 10 students filled out the first survey anonymously (see Appendix D - Table 3). 276 first year students filled out both surveys successfully, while only 76 second-year students did. As expected, first year students were more likely to encounter during their tutorials then second years. Though, I expected to be able to approach more second year students but due to a policy change this year, second year students are free to attend the tutorials. Since I expect a huge selection bias of only a few very motivated students in this sample, and a lack of data about second-years in general, my focus will be to first-year students only. I delete four first year students from the sample who did not fill out the survey seriously, but also international students and dual students, both studying Economics and Law, who affect the randomization of this study. This is because only two out of three treatments are randomly assigned. Consequently, I use a balanced dataset from a sample of 225 students (see Appendix D - Table 4). Most of the students are students in Economics and Business Economics (89.8%), others are in Fiscal Economics (10.2%). Both groups have the same study program in their first year. In total, they are about 38.0% of the first-year students enrolled.

5. Methodology

5.1 Summary statistics and randomization

First, I provide a randomization check among the summary statistics about the students' study behaviour and risk attitude according to the twelve different survey designs. I do not test statistically differences among the choice situations since these are provided after the treatment. By lack of data, I will not study differences between students' choice decisions based on the performance and sociability conditions of fictive students. This study will focus

[1] I handed out three times €10,00 to two first-year students in Economics and Business Economics and a second year International Economics and Business Economics on Monday 22/6/2015. The students are randomly drawn from 398 students (including test participants) by a list randomizer (www.random.org). A link to my thesis will be send to students who are interested as soon as my thesis will be uploaded online by the Erasmus School of Economics.

between fully treated and non-treated students only, which I will describe with summary statistics and test differences about.

5.2 Models

Second, I present two simple linear regressions to investigate with cross-sectional data from the first survey what factors students believe are important in their choice where to study (more hours). I regress students' percentages of study time on-campus (labeled ''campus'') on socially important variables such as the importance to talk/ask advise about studies (labeled ''talk/advise''), to socialize (labeled ''socia'') and to show capabilities (labeled ''show''). I include variables[2] for the importance to avoid distractions (labeled ''avoid''), the importance of being home (labeled ''home''), the importance of travel distance given travel time (labeled ''travel'') and overall grades, a weighted grade of the last two grades obtained (labeled ''o_grade'') to control for effects that bias the estimates of the socially important variables since Bloom et al. (2015) and Riske (2014) show these variables to be important in students' decisions. For an overview of a more in-depth definition, scale and survey questions related to each variable, I refer to Appendix D – Table 5. The constant (β_0) functions as the baseline of the regression. The error term (ε_i) captures factors that affect the outcome variable but are not included in the model. Model 1a looks like:

$$(1a)\ campus_i = \beta_0 + \beta_1 talk/advise_i + \beta_2 socia_i + \beta_3 show_i + \beta_4 avoid_i + \beta_5 home_i + \beta_6 travel_i + \beta_7 o\_grade_i + \varepsilon_i$$

I replicate this model by using students' hours studied on-campus (labeled ''stcampus'') as outcome variable. This shows not only how important social and non-social factors are important in studying on-campus, but also in how much effort students spend in hours on-campus. Model 1b looks like:

$$(1b)\ stcampus_i = \beta_0 + \beta_1 talk/advise_i + \beta_2 socia_i + \beta_3 show_i + \beta_4 avoid_i + \beta_5 home_i + \beta_6 travel_i + \beta_7 o\_grade_i + \varepsilon_i$$

[2] **Note:** I use questions by Riske (2014) about study locations, study hours, reasoning where to study, residence, travel distance and course grades.

Third, I use panel data to describe how the summary statistics about students' study behaviour, risk attitude and treatment change over time. I distinguish within from between variation among the variables, to see how much variance needs to be explained. After, I will use fixed effect models to test how treatment (labeled ''treatment'') stimulates students to study in percentages more on-campus and how risk aversion and grades affect this. Hausman suggest me to use this model for each model I run (p = 0.0000). This means that this model needs and will control for time-invariant student fixed effects (labeled ''fe_i''). The first panel data model I run replicates model 1a and includes this treatment effect (labeled ''treatment''). The control group functions as baseline. The error term is ''assumed to be i.i.d. over both students and time'' (u_{it}) (Verbeek, 2012, p. 374). This model is called 2a. Model 2b includes interactions between the treatment with students' usual risk aversion[3] (labeled ''risk'') and overall grades (''o_grade''). The full model, called model 2b, looks like:

$$
\begin{aligned}
(2b)\ campus_i = {} & fe_i \\
& + \beta_1 treatment_{it1} + \beta_2 treatment * risk_{it2} + \beta_3 treatment * o\_grade_{it3} \\
& + \beta_4 talk/advise_{it4} + \beta_5 socia_{it5} + \beta_6 show_{it6} + \beta_7 avoid_{it7} + \beta_8 home_{it8} \\
& + \beta_9 travel_{it9} + u_{it}
\end{aligned}
$$

I replicate models 2a and 2b with hours studying on-campus (labeled ''stcampus'') as outcome variable instead of studying on-campus in percentages. Hausman suggests using fixed effects models again (p = 0.0000). The full model, called model 3b, looks like:

$$
\begin{aligned}
(3b)\ stcampus_i & \\
& = fe_i \\
& + \beta_1 treatment_{it1} + \beta_2 treatment * risk_{it2} + \beta_3 mix * risk_{it3} \\
& + \beta_4 treatment * o\_grade_{it4} + \beta_5 mix * o\_grade_{it5} + \beta_6 talk/advise_{it6} \\
& + \beta_7 socia_{it7} + \beta_8 show_{it8} + \beta_9 avoid_{it9} + \beta_{10} home_{it10} \\
& + \beta_{11} travel_{it11} + u_{it}
\end{aligned}
$$

Fourth, I use linear probability models to test whether the treatment affect students' choice to refer an on-campus studying student compared to an home-studying student (labeled

[3] **Note:** I use questions about risk aversion by the German Socio-Economic Panel (GSOEP) used by Pfeifer (2008, p. 12). The questions concerned are 13, 14 and 15 of survey 1.

‘‘choice’’). This outcome variable needs to be explained first. In the first survey I ask in two situations to refer a student. In the first situation, both students study on-campus, but differ in performance and sociability. In the second situation, both students remain equal, except the second student starts studying from home. The variable ‘‘choice’’ captures the differences between both referral preferences. Note that it is possible not to refer a student in particular, since students can be indifferent between both. I use dummies for each ‘‘choice’’ outcome relative to the rest of the sample per model:

$$\begin{cases} \text{4a, if campus studying student preferred over home} - \text{studying student.} \\ \text{4b, if students become indifferent in favor home studying student.} \\ \text{4c, if students remain indifferent} \\ \text{4d, if students become indifferent in favor on} - \text{campus studying student.} \\ \text{4e, if home} - \text{stuyding student preferred over on} - \text{campus studying student.} \end{cases}$$

Before regressing the models, I will present summary statistics and test for differences. I use the treated students (labeled ‘‘treatment’’) in the regression and use the control group as baseline. I include variables for Bloom et al.’s (2015) suggestions about perceived change of likeliness to be out of sight means out of mind (labeled ‘‘oosm’’), showing capabilities (labeled ‘‘showcap’’) and ambitiousness (labeled ‘‘amb’’). I also control for perceived change in productivity (labeled ‘‘prod’’) to capture concerns about shirking from home. I control for the importance of the difference of both fictive students’ grades (labeled ‘‘Δgrades’’), sociability (labeled ‘‘Δ$soci$a’’) and observability (labeled ‘‘Δobs’’) since the perceived design of the choice decisions may affect students’ referrals. I also control for students own experience by studying on-campus in percentages (labeled ‘‘campus’’) and their grades (labeled ‘‘o_grade’’), since theory suggests that evaluators’ own behaviour reflects their choices. Model 4 is for every ‘‘choice’’ as follows:

$$(4)\ choice_i = \beta_0 + \beta_1 treatment_i + \beta_2 prod_i + \beta_3 oosm_i + \beta_4 showcap + \beta_5 amb_i + \beta_6 \Delta grades_i + \beta_7 \Delta soci_i + \beta_8 \Delta obs_i + \beta_9 campus_i + \beta_{10} o\_grade_i + \varepsilon_i$$

6. Results

6.1 Randomization and summary statistics

Table 6 in Appendix D shows summary statistics about students’ study behaviour and risk aversion over each survey designs in the first period (T=1). Kruskal-Wallis tests the data to be

random, though the importance to talk or ask advise about studies seems to be statistically significant on the 10%-level. A closer look to the means and standard deviations of the observations shows that the twelve different treated groups differ quite a bit. For example, there are treatment and mixed groups that study only 12 hours on-campus on average on-campus compared others who study 30 hours on average. The differences in group size alone suggests already that the data is not entirely random, since they are not equal. Hence, randomization of students filling out different survey designs has not been entirely successfully executed. This means that comparing possible differences between treated and non-treated students should be with care.

Table 7 shows the summary statistics and its statistically differences between treated and non-treated students over time. Among the 225 students, 118 are treated with the information about the promotion penalty and 107 are not. This table specifies the variables into observations measured in the first (T=1) and second period (T=2). No statistically differences between treated and non-treated students can be found over time (T=1=2) with a t-test, except for the importance to show capabilities ($p = 0.09$) and students' ambitiousness ($p = 0.09$) in the first period. However, these differences are only significant on the 10%-level and in favor of the control group, meaning that the effects I will find in this study concerning these variables are underestimated, rather than overestimated.

Table 7 in Appendix D shows that students study about 25% on average of their study time on-campus in the first period. About 70% has been done at home. Over time, students sort even 5% more to home. Although there are no statistically differences between treated and non-treated students, non-treated students are more likely to study from home. Both groups of students seem to study more hours over time, with about 9 up to 12 hours per week. Overall, the aspects specifying the importance of having students around seem to be important below 4 on a 7-point scale. There are small increases in treated students' importance to talk/ask advice about studies (3.60 to 3.80) and their importance of showing their capabilities (2.64 to 2.83) relatively to non-treated students over time (respectively 3.86 to 3.80 and 3.06 to 3.05), although not significant. Aspects like travel distance (mean about 4.9 overall), being home (4.60 overall) and avoiding distractions (5.30 overall) remain much more important in choosing locations to study.

Furthermore, students seem not to be that much on-campus. On average, students are only about 2.5 days per week on-campus, which takes them on average about 40 minutes to get there. Students perceive themselves quite ambitious (5.2 on average) and obtain grades of about 6.8 on average. Students seem not to be very risk taking overall (about 5.65), but more in their studies (about 6.35). However, students seem to be quite willing to be employed right after their studies.

6.2 Models

Table 8 in Appendix D shows an overview of the regressions 1, 2 and 3. Model 1a shows that students who believe that the opportunities to talk and ask advises about their studies are more likely to study on-campus (b = 2.04*, std = 1.05). This means that per point that students believe talks and advises are important on a 7-point scale, students study 2% more on campus. Students do not statistically study more on-campus to socialize (b = 0.21, std = 1.06). Due to the high statistically correlation with the importance to talk and ask advise (correlation = 0.4471) and importance to show capabilities (correlation = 0.6096) (see Table 9 in Appendix D), it could be that these measure about the same thing, resulting in an insignificant result for the importance to socialize. Interestingly, students do not study statistically in percentages more on-campus to show their capabilities (b = -2.73***, std = 1.01). In fact, the opposite holds. This means that students study for about each point on a 7-point scale 2.7% more from home to signal their capabilities than on-campus. Noteworthy, I find a strong statistically significant negative effect of grades on studying on-campus (b = -4.51***, std = 1.66). This means that per point in overall grades, 4.5% less time will be spent studying on-campus. These findings suggests that better performing students do not study on-campus and want to show their capabilities by means of grades, rather than when studying. Control variables like being at home (b = -7.32***, std = 1.09) and (b = 0.14***, std = 0.04) make students study from home.

Model 1b shows that social factors like the importance to talk / ask advise (b = 0.11, std = 0.11) and to socialize (b = -0.02, std = 0.10) do not statistically significantly affect students' choices to study more hours on-campus. However, students who want to show their capabilities study more hours from home (b = 0.16**, std = 0.08). This holds for the better performing students as well (b = -0.40**, std = 0.19). Control variables like being at home (b = -0.41***, std = 0.14) and avoidance of travel time show the same negatively relations with studying on-campus (b = -0.40**, std = 0.19).

Before using panel data in my models, let me return to Table 7. The most interesting finding is that treated students remain studying relatively more on-campus (24.66% to 21.72% on average) than non-treated students (23.64% to 16.50% on average) over time. To see this, compare studying on-campus in percentages according to treatment between both time periods. However, like this variable and any other in Table 7, both treated and non-treated students not differ statistically. Note that students do not study more over time, about the same differences for treated and non-treated students. I combine both periods' results into Table 10 in Appendix D. This table shows the overall descriptive statistics per variable included in the regression over both periods of time. Now, the descriptive are specified on between and within level. The table shows that there exists always more between variation in the standard errors than within, except for the treatment effects. This means that students overall differ more compared to each other than themselves over time, except for being treated. This means that students react more upon the treatments themselves than compared to each other. Having some variation in the outcome variables and treatment effects is a good sign that fixed effects models are useful (Williams, 2015). The reason is that a fixed effects model cares only about the within variation and controls for fixed time-invariant effects (Verbeek, 2012).

Model 2a[4] in Table 8 shows a fixed effect model of studying on-campus in percentages including the treatment without any interactions. This model is overall highly insignificant. Overall obtained grades are omitted since they are fixed. The rho suggests that about 65% of the student variance has been explained by including the student fixed effects. Including interactions between the treatment with risk aversion and overall grades in model 2b does not change these results. A Wald test does not show statistically significant results on a 5-percent level for treated students conditional their risk aversion (Wald = 0.11) and grades (Wald = 0.08*). Due to the overall highly insignificant model, not much can be said about the significance of grades on a 10-percent level. This model also captures about 65% of the within variance in the fixed effects. In sum, if I include fixed effects when using panel data, I cannot reject the hypothesis 1a and 1b, nor reject them based on students' study time on-campus in percentages.

[4] I adjust models 2 and 3 for possible heteroskedasticity and autocorrelation by using robust clusters on student level (Wooldridge, 2009, p. 511).

Model 3a shows a fixed effects model replacing study hours in percentages on-campus by hours studied on-campus. This model does not change the results. In fact, the model does not explain anything at all, as can be derived from the r-squared. This model captures 74% of the student variance in the student fixed effects. These findings also hold for model 3b, where I include interactions between treatment with students' risk aversion and overall grades. Hence, this model does also not reject nor reject hypothesis 1a and 1b.

6.3 Job referrals

Before I present model 4, I refer to summary statistics and differences about the job referral choice decisions in Appendix D - Table 11. This table shows that treated students prefer to refer an on-campus studying student over an home-studying student on average. The meaning of the min and max boundaries are the same as the meaning of the dummies I use in model 4, where the first model equals -2 and the fifth 2. The treated students prefer to refer on-campus studying students compared to non-treated students on a 10%-level when using a t-test ($p = 0.10$*), which makes me not reject hypothesis 2e. Further statistically differences between the groups cannot be found. Overall, the students state on-campus studying students and at home studying students to be equally productive, ambitious, likely to be forgotten and likely to show capabilities (about the average of 4 on a 7-point scale that suggests to be indifferent), with an at home studying student being slightly more productive (4.15 on average) and an on-campus studying student slightly more ambitious (3.75 on average), more likely to be forgotten (4.50 on average) and to show its capabilities (3.80 on average). This suggests that, overall, students perceive the reasoning by Bloom et al. (2015) on average in line, although not with that much of a difference. Students state sociability in referral decisions to be most important, followed by grades. Much less important is the observability, which is a striking given the findings by Bloom et al. (2015) and Riske (2015). However, these outcomes are also statistically insignificant among the treated and non-treated students. I repeat the summary statistics of studying on-campus and overall grades, which are not different in line with not being treated when being asked. Correlations are not above 0.40, which is fine (see Appendix D – Table 13).

Model 4 (see Appendix D - Table 12) that belongs to these summary statistics shows five different regressions. All models show the estimates of being treated, social aspects important according to Bloom et al. (2015) and Riske (2015) and variables to control for effects that result from the survey designs and students' own perceptions. The only difference is the

meaning of the outcome variable. Model 4a shows that students do not choose to refer an on-campus studying student per point on a 7-point scale that the home-studying student is more likely to be perceived to show his capabilities (b = -0.04**, std = 0.013). However, the more important observability has been perceived to be in job referrals, the more likely on-campus studying students are being referred (b = 0.02**, std = 0.01). Students studying on-campus themselves prefer to refer an on-campus studying student themselves, although on a 10-percent level (b = 0.00*, std = 0.076). Model 4b shows that students become indifferent when choosing between an on-campus studying student and an at-home studying student conditional his performance and sociability due to the perceived importance of grades in job referrals. This suggests that the effect of the importance of grades (b = 0.03**, std = 0.03) negatively affects to choose an at-home studying student for sure in favor of an on-campus studying student. Model 4c shows that students are more likely to forget about the home-studying student, but do not change their referral (b = 0.05**, std = 0.03). Note that there are 112 students that do not change their referral, which accounts for half of the sample. Model 4d shows that the more capable the home-studying student is perceived to be on a 10-percent level (b = 0.03*, std = 0.07), the more likely students become indifferent in their referral based on the location to study from. This effect is beneficial for the home-studying student. Model 4e shows that the more home-studying students are perceived to be likely to show their capabilities (b = - 0.04**, std = 0.01), the less students prefer them over the on-campus studying student. Overall, I find that students think differently about the likeliness of home-workers to show their capabilities in order to refer them. However, the economical and statistically significance of the values are small. Hence, I do not reject nor reject hypothesis 2c. Being observable by fellow students seem to be beneficial for on-campus studying students, although students who state that home-studying students are easier to forget, make them not change their minds in referring peers. I do not reject nor reject hypothesis 2b. Since no statistical significant evidence can be found to answer hypothesis 2a and 2d, I do not reject nor reject these hypothesis.

7. Discussion

During my studies, I have learned that doing a randomized experiment is the ideal scenario to come closer to revealing causal relations (Bosker, 2013; Kapoor, 2013). The reason is that by sharing my belief about how studying on-campus can affect student careers randomly among

students, I can solve for any (selection) effects that could explain why students study on-campus and who they refer except for the treatment that I differ. This means that, ceteris paribus, both treated and non-treated students would be identical, except for the effects of the treatment that I provide them. If this is easy, every human being could be a good researcher, which is obviously not the case. However, coming close to causal relations is not impossible, if some crucial assumptions are met. In this study, I did a first try revealing such relationships between my belief that getting students familiar with how studying on-campus can overcome the promotion penalty makes them study more on-campus and state to refer an on-campus studying student over a home-studying student. However, this study shows that randomizing 12 treatments have not been done entirely random. For example, groups of students conditional on the survey designs they filled out, differed quite a bit in the amount of study time on-campus, though they are not tested to be significant. In other words, comparing treated with non-treated students should be done with care.

By running regressions, the treatment effects and the reasoning about sorting and job referrals can still come closer to ideal (Bosker, 2013). Important here is that the error terms conditional on the explanatory variables have a very low, preferably zero effect. Bosker (2013) describes three possible reasons why this assumption can be violated when using non-random data (Bosker, 2013). First, there might be reverse causality. In this case, it is unlikely that studying on-campus or a job referral decision affects a treatment with information they probably have never had before. Second, there might be omitted variables not included in the regression that can affect the effects of the explanatory variables on the outcome variables. Since I remain quite close to theory in including variables to the models, and designed the survey experiment myself, I think I covered most of them. In addition, I control for unobservables by using panel data in fixed effect models about sorting decisions to study on-campus to overcome such endogeneity problems. However, Bosker (2013) shows that the explanatory variables (of interest) should vary enough to use such a model. This could possibly be a reason why the fixed effect models turned out to be quite insignificant. However, this low variance strikes my belief about how studying on-campus can affect job referrals and how reversely this leads to studying on-campus, because students seem not to respond that much to the treatment. This boils down to the third explanation by Bosker (2013) why I do not find what I believe: measurement error. This means that the data I use is just not good enough to deliver measures that shows reality as it is. Multiple reasons are at hand. First, first-year students may be too young to think about signaling their performance by studying on-campus to increase job

referral opportunities. In fact, they have at least another two years to work upon that and may not be familiar with what matters in (getting) jobs much. The fact that students study most of their time at home, does not help them imagining how studying on-campus be helpful. Second, students could also not adhere to change their behaviour due to the design of the survey experiment. Maybe it is hard for students to imagine how showing their capabilities on-campus can affect their careers according to a suggestive treatment lacking hard evidence. Consequently, it may be too costly to invest to study nowadays on-campus to gain uncertain benefits in the future. It could also be that their study behaviour just does not matter in two weeks because their believes may form gradually.

8. Conclusion

This study investigates whether students believe that studying on-campus affects career prospects. I do this by means of a randomized survey experiment among students in threefold. First, I investigate the importance of social and control for non-social factors on studying on-campus. Second, I study how being treated with information about the promotion penalty makes students study on-campus. Third, I investigate how treated students prefer to refer students given their study location.

First, I find that students usually study from home to signal their capabilities. Students with lower grades sort themselves on-campus, most likely to ask advise or to talk with other students about their studies. Social talks do not statistically affect studying on-campus. These findings suggests that students signal their capabilities with their grades, rather than being observable while studying. Second, students do not adhere to the treatment to signal their capabilities on-campus, suggesting that their belief about the potential benefits is too low to adhere to. Third, I find that the importance of social relations and performance in referring peers seems to be evenly important, whereas being observable is much less. However, being treated does minimally statistically significant ($p = 0.10$) and economically affect students' job referrals in favour of an on-campus studying student. I do not find statistically significant effects for perceived productivity, ambitiousness, being forgotten and showing capabilities of the home-studying students compared to the on-campus studying students on job referrals in this decision.

I conclude that students do not to adhere to that studying on-campus can affect career prospects by being observable and social to others. Although they understand the importance of being social in getting referred, they do not expect that their observability on-campus matters. This means that I cannot find suggestive evidence that studying on-campus affects students' careers by means of job referrals. This is not in line with the literature that shows how important (investing in) social ties can be. Most likely this is due to first-year students being not yet convinced about the importance of being observable and social theory suggests to matter.

9. Recommendations and further research

I would like to advise each student to reconsider its study location not only based on their performance, but also to take the importance of being observable and social to peers while studying into account. Studying on-campus may be the best of both, whereas forming social with students at home seems less likely. As far as the results by Bloom et al. (2015) concerned, combined with the literature about job referrals, this may have a substantial impact on students' careers.

However, more research needs to be done to the impact of studying on-campus compared to home on career prospects with (potential) future employers. A major gap in the literature exists in studying when perceptions about peers are actually formed and how they last over time. Although studies show that job referrals by peers are beneficial to firms, one can ask themselves when and how the information that referrals provide becomes that valuable. In this study, the sample of students may be just too young and (work related) inexperienced to think carefully about and adhere to how studying on-campus can affect their career prospects. It could also be that they just do not perceive their peers to observe them while doing it because they might remain studying from home. In order to show students how to overcome a promotion penalty by being observable on-campus, it is important to come up with hard evidence that shows when and how perceptions of colleagues are formed conditional their study locations. I suggest further research to investigate when and how this happens, but also how these aspects change over time and how they relate to behaviour that actually matters in (getting) jobs.

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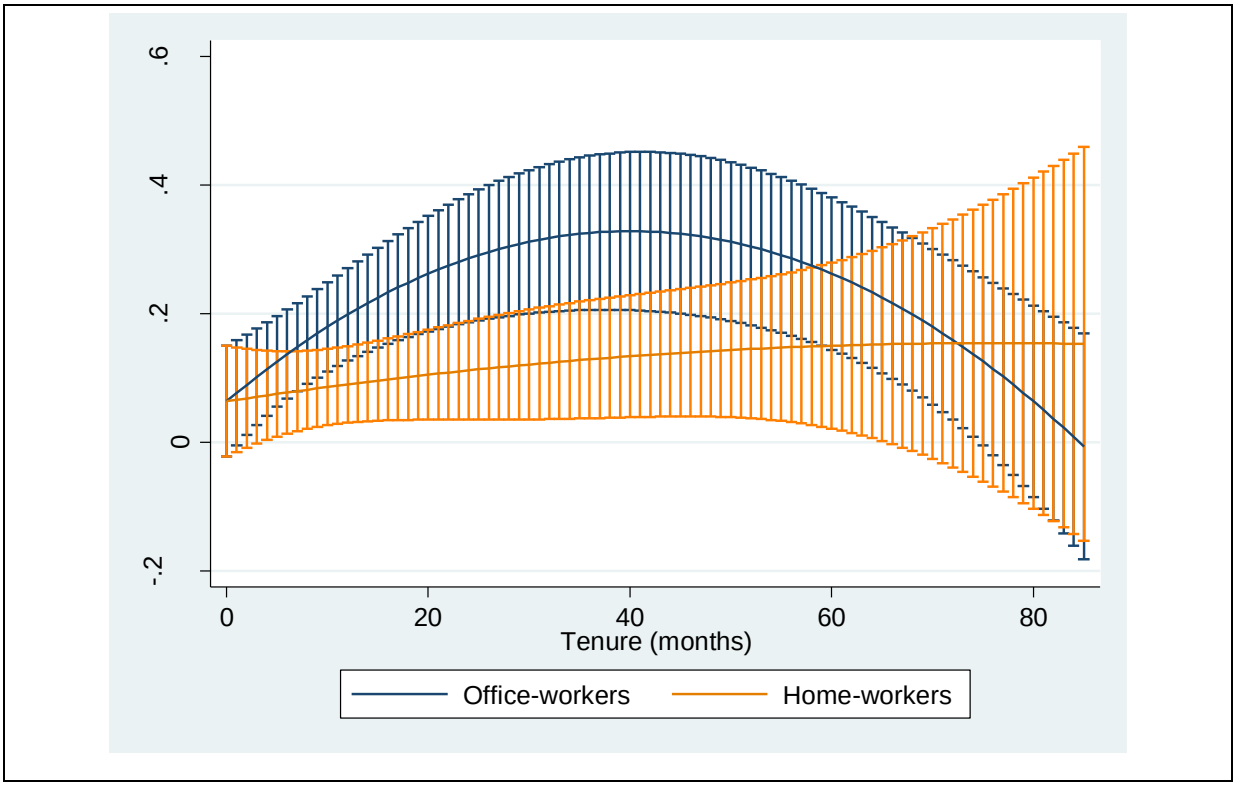
11. Appendix

Appendix A: Literature review

Figure 1: Home-workers are conditional on tenure promoted less than identical office-workers



Note: Home-workers are concavely promoted much less than identical office-workers conditional their tenure.

Appendix B: Survey 1 (including treatment)

Dear Student,

Thank you for participating! Please read the instructions carefully and answer them honestly. Your answers will be used confidentially and for research purposes only.

This study will be about the effects of study locations on (perceived) study performance. This survey contains five parts: about your participation, about your study behaviour, about your risk attitude and about two choice situations. In total, there are 22 questions. As a gesture of gratitude for your participation, we randomly assign 3 students €10,00 and are more than happy to send you the results!

Best,

Sacha Kapoor
Assistant Professor of Economics
Erasmus University Rotterdam

Jesper Riske
Msc Student Economics of Management and Organisation
Erasmus University Rotterdam

Part 1: Student participation

1. What are your student number and initials? For example, mine are 333434jr.

_____

2. Do you want to receive a link to the final results on your student mail account?

O Yes

O No

3. Do you want to participate to win €10,00?

O Yes

O No

Note: *Even if you are not interested in the results or to win €10,00, please fill out your student number to allow us to combine the survey results with some additional questions we have for you in about two weeks. Again, your answers will be used confidentially and for research purposes only.*

Part 2: Study behaviour

4. Where do you usually study by yourself?

• University Library	……%
• Somewhere else at Erasmus University	……%
If so, where? _____	
• Home	……%
• Somewhere else outside Erasmus University	……%
If so, where? _____	100%

5. How many hours did you study for your study in Economics last week? Please exclude *attended lectures and tutorials.*

O 0-5 O 5-10 O 10-15 O 15-20 O 20-25 O 25-30 O 30-35 O 35-40 O 40 or more

6. How important are the following aspects in your choice where to study?

		1 2 3 4 5 6 7	
• Presence of other students			
o to talk / ask advise about study	Not important	O O O O O O O	Important
o to socialize	Not important	O O O O O O O	Important
o to show my capabilities	Not important	O O O O O O O	Important
• Avoiding distraction	Not important	O O O O O O O	Important
• Being at home	Not important	O O O O O O O	Important
• Travel distance	Not important	O O O O O O O	Important
• Something else	Not important	O O O O O O O	Important

If so, what? _____

7. Which days were you at the Erasmus University last week?

O Monday O Tuesday O Wednesday O Thursday O Friday O Saturday O Sunday O None

8. Where do you live during the week?

O Rotterdam

O Somewhere else, namely _____

9. How much time does it take you to get to the Erasmus University in minutes?

O 0-10 O 10-20 O 20-30 O 30-40 O 40-50 O 50-60 O 60 or more

10. What are your expected percent chances you will score following grades for your current courses?

Courses / expected grades	**0 – 2.5**	**2.5 - 5**	**5 – 5.5**	**5.5 – 7.5**	**7.5 – 10**	**Total**
Organisation and Strategy	.....%	.....%	.....%	.....%	.....%	100%
Skills and Guidance (block 5 only)	.....%	.....%	.....%	.....%	.....%	100%

11. On a 7-point scale, how ambitious are you?

Not important - 0 1 2 3 4 5 6 7 - Important

12. What were your grades for the following courses?

Marketing _____

Applied Statistics 1 _____

Part 3: Risk attitude

13. Are you usually a person who avoid or takes risks?

Avoid risks - 0 1 2 3 4 5 6 7 8 9 10 - Take risks

14. How much are you willing to take risks in your study career to distinguish yourself?

Nothing - 0 1 2 3 4 5 6 7 8 9 10 - Everything

15. How important is being sure of employment right after your studies for you?

O Not important O Less important O Important O Very important

Part 4: Choice decisions about Situation 1

Please read the message and confirm this in the photo before you continue.

Study on-campus to show your capabilities and boost your career!

Research by Bloom et al. (2015) found that workers working from home are 6.5% less promoted than identical workers working from the office. Major reason is that workers who work from home, are not observed and are being forgotten. This suggests that studying on-campus can boost your career with network opportunities!

Source: The Quarterly Journal of Economics (Ranked #1 in Economics)

Please read Situation 1 before you continue.

Situation 1
Suppose you work in a company ten years from now and you want to hire a worker or advise your employer to hire one. Two students you studied with are in your mind. Student 1 was an average student. Student 2 was a student that gets [...] grades and was behaving [...] social to you. Both students studied five days per week on-campus and not during the weekends. All other information will be equal.

16. On a 10-point scale, how important are Student 2's grades compared to Student 1's in your hiring decision / advise?

Not important - 0 1 2 3 4 5 6 7 8 9 10 - Important

17. On a 10-point scale, how important is Student 2's sociability compared to Student 1's in your hiring decision / advise?

Not important - 0 1 2 3 4 5 6 7 8 9 10 - Important

18. On a 7-point scale, which student was more ...? *1 2 3 4 5 6 7*

• Productive	Student 1	O O O O O O O	Student 2
• Ambitious	Student 1	O O O O O O O	Student 2
• Likely to be forgotten since you do not see the student	Student 1	O O O O O O O	Student 2
• Likely to show his/her capabilities to you	Student 1	O O O O O O O	Student 2

19. On a 7-point scale, which student would you advise to your boss / hire yourself?

Student 1 - 1 2 3 4 5 6 7 - Student 2

Part 5: Choice decisions about situation 2

Please read Situation 2 before you continue.

Situation 2
Suppose you still want to hire a worker or advise your employer to hire one. The same students you studied with are in your mind. Both students still studied five days per week. However, Student 2 studied four days per week from his/her home, while Student 1 studied five days on-campus. All other information remains equal.

20. On a 10-point scale, how important is Student 1's observability compared to Student 2's in your hiring decision / advise?

Not important - 0 1 2 3 4 5 6 7 8 9 10 - Important

21. On a 7-point scale, how does studying from home affect the following aspects for Student 2?

		1 2 3 4 5 6 7	
• Productivity	Less	O O O O O O O	More
• Ambitiousness	Less	O O O O O O O	More
• Likeliness to be forgotten since you do not see the student	Less	O O O O O O O	More
• Showing his/her capabilities to you	Less	O O O O O O O	More

22. On a 7-point scale, which student would you advise to your boss / hire yourself?

Student 1 - 1 2 3 4 5 6 7 - Student 2

Thank you for filling out!

Appendix C: Survey 2

Dear Student,

Thank you for participating again! Please read the instructions carefully and answer them honestly. Your answers will be used confidentially and for research purposes only.

This study is about the effects of study locations on (perceived) study performance. This survey, in addition to the one you filled out about two weeks ago, is important to see how your study behaviour changes over time. This survey contains three parts: about your participation, about your study behaviour and about a choice situation. In total, there are 8 questions.

Best,

Sacha Kapoor
Assistant Professor of Economics
Erasmus University Rotterdam

Jesper Riske
Msc Student Economics of Management and Organisation
Erasmus University Rotterdam

Part 1: Student participation

1. What are your student number and initials?

_____

Note: *Filling out your student number is important for us to be able to combine current survey results with your survey results from about two weeks before. Your answers will be used confidentially and for research purposes only.*

Part 2: Study behaviour

2. Where did you study last week by yourself?

• University Library ……%

• Somewhere else at Erasmus University ……%

If so, where? _____

• Home ……%

• Somewhere else outside Erasmus University ……%

If so, where? _____ 100%

3. How many hours did you study for your study in Economics last week? Please exclude *attended lectures and tutorials.*

O 0-5 O 5-10 O 10-15 O 15-20 O 20-25 O 25-30 O 30-35 O 35-40 O 40 or more

4. How important are the following aspects in your choice where to study?

		1 2 3 4 5 6 7	
• Presence of other students			
o to talk / ask advise about study	Not important	O O O O O O O	Important
o to socialize	Not important	O O O O O O O	Important
o to show my capabilities	Not important	O O O O O O O	Important
• Avoiding distraction	Not important	O O O O O O O	Important
• Being at home	Not important	O O O O O O O	Important
• Travel distance	Not important	O O O O O O O	Important
• Something else	Not important	O O O O O O O	Important

If so, what? _____

5. Which days were you at the Erasmus University last week?

O Monday O Tuesday O Wednesday O Thursday O Friday O Saturday O Sunday O None

6. What are your expected percent chances you will score following grades for your current courses?

Courses / expected grades	**0 – 2.5**	**2.5 - 5**	**5 – 5.5**	**5.5 – 7.5**	**7.5 – 10**	**Total**
Organisation and Strategy	.....%	.....%	.....%	.....%	.....%	100%
Skills and Guidance (block 5 only)	.....%	.....%	.....%	.....%	.....%	100%

Part 3: Choice decisions about Situation 1

Please read Situation 1 before you continue.

Situation 1
Suppose you work in a company ten years from now and you want to hire a worker or advise your employer to hire one. Two students you studied with are in your mind. Both students studied five days per week. However, whereas Student 1 studied all days on-campus, Student 2 did only one (and four from home). All other information remains equal.

7. On a 7-point scale, which student was more ...? *1 2 3 4 5 6 7*

- Productive — Student 1 O O O O O O O Student 2
- Ambitious — Student 1 O O O O O O O Student 2
- Likely to be forgotten since you do not see the student — Student 1 O O O O O O O Student 2
- Likely to show his/her capabilities to you — Student 1 O O O O O O O Student 2

8. On a 7-point scale, which student would you advise to your boss / hire yourself?

Student 1 - 1 2 3 4 5 6 7 - Student 2

Thank you for filling out!

Appendix D: Tables

Table 1: 12 different survey designs

Treatment			Fictive students' relative conditions	
Control	**Full**	**mix**	**Performance**	**Sociability**
(1)	(5)	(9)	Better	More
(2)	(6)	(10)	Better	Less
(3)	(7)	(11)	Less	More
(4)	(8)	(12)	Less	Less

Table 2: Incentives to participate

	Lottery			**Total**
Mail	**Yes**	**No**	**Missing**	
Yes	255 (199)	19 (18)	2 (2)	276 (219)
No	129 (85)	61 (47)	1 (1)	191 (133)
Missing	2 (1)	0	5 (3)	7 (4)
Total	386 (285)	80 (65)	8 (6)	474 (356)

Note: First year students in brackets.

Table 3: Participating students

Students	Complete	Incomplete	Total
First year	276	80 (8)	356
Second year	76	42 (2)	118
Total	352	122 (10)	474

Note: Anonymous responses in second survey round in parenthesis. Incomplete means that a second survey has not been filled out while being absent.

Table 4: Data representativeness

Study / Students	Completed survey experiment	Enrolled study year 2013-2014	Representativeness (%)
Bsc Economie en Bedrijfseconomie	202 (89.8%)	490	41.2%
Bsc Fiscale Economie	23 (10.2%)	104	22,1%
TOTAL	225 (100%)	594	38.0%

Note: Enrollment concerns previous study year and should be indicative for this year's (Erasmus University Rotterdam, 2013)

Table 5: Meaning of variables

Variables	Meaning	Survey 1 question(s)	Survey 2 question	Scale
Amb	Perceived change of ambitiousness fictive student when studying from home	21b (18b not used)	7b	1 (on-campus student) to 7 (home student)
Avoid	Importance of avoiding distractions in choice where to study	6d	4d	1 (not important) to 7 (important)
Campus	Percentage of study time on-campus (both library and somewhere else).	4	2	0 (not at all) to 100 (all)
Choice	Referring home-studying student over on-campus studying student	22-19	Not used	-2 (on-campus student preferred) to 2 (home student preferred) or dummies for each
ΔGrades	Importance difference in grades fictive students in choice decision	16	-	0 (Not important) to 10 (important)
Home	Importance of being home in choice where to study	6e	4e	1 (not important) to 7 (important)
Δobs	Importance difference in observability fictive students in choice decision	20	-	0 (Not important) to 10 (important)

Note: Table continues.

Table 5 (continued)

Variables	Meaning	Survey 1 question(s)	Survey 2 question	Scale
O_grade	Overall grade student	12	-	0 (low) to 10 (high) Note: First course weighted 8x, second 4x
Oosm	Perceived change of being forgotten when studying from home	21c (18 not used)	7c	1 (on-campus student) to 7 (home student)
Prod	Perceived change of productivity when studying from home	21a (18a not used)	7a	1 (on-campus student) to 7 (home student)
Risk	Overall risk aversion	13 (14 and 15 not used)	-	0 (avoid risks) to 10 (take risks)
Δsoci	Importance difference in sociability fictive students in choice decision	17	-	0 (Not important) to 10 (important)
Show	Importance of showing capabilities in choice where to study	6c	4c	1 (not important) to 7 (important)
Showcap	Perceived change of showing capabilities when studying from home	21d (18d not used)	7d	
Stcampus	Hours studied on-campus (both library and somewhere else).	4 (%) x 5	2 (%) x 3	0 (minimum) – 22.5 (maximum) in hours
Socia	Importance of socializing in choice where to study	6b	4b	1 (not important) to 7 (important)

Note: Table continues.

Table 5 (continued)

Variables	Meaning	Survey 1 question(s)	Survey 2 question	Scale
Talk/advise	Importance to talk and/or ask advise about study in choice where to study	6a	4a	1 (not important) to 7 (important)
Travel	Importance of travel distance in choice where to study*travel time	9x6f	9 (survey 1) x4f	0 (not important, 2.5 minutes on average) – 122.5 (very important, ≥ 62.5 minutes on average)
Treatment	Being treated in treatment group	Yes or no	-	0 (no) – 1 (yes)

Note: Table ends here.

Table 6: Summary statistics about study behaviour and risk attitude and statistical differences among 12 survey designs (T=1)

Design 3x4	**Control (T=1)**				**Treatment (T=1)**				**Mix (T=1)**				**Min**	**Mean (T=1)**	**Max**	**P-value**
Performance - Sociability fictive student	**Better - More**	**Better - Less**	**Lower - More**	**Lower - Less**	**Better - More**	**Better - Less**	**Lower - More**	**Lower - Less**	**Better - More**	**Better - Less**	**Lower - More**	**Lower - Less**				
Number	19	17	17	18	22	22	18	15	18	20	20	19				
Studying on campus in percentages	23.95 (29.47)	25.54 (28.25)	22.47 (28.08)	23.61 (22.67)	14.09 (18.04)	38.00 (32.52)	30.45 (26.38)	24.40 (25.49)	12.00 (11.59)	18.65 (27.11)	26.70 (35.33)	29.48 (28.58)	0	24.18 (1.81)	100	0.20
Study hours	2.21 (1.62)	2.35 (1.27)	2.18 (1.29)	2.35 (1.46)	1.91 (0.87)	3.00 (2.09)	3.44 (2.20)	2.00 (1.07)	2.72 (1.56)	2.65 (1.53)	1.60 (0.82)	2.16 (0.90)	1	2.38 (0.10)	9	0.14
Importance talk / advise about study	3.58 (1.74)	3.88 (1.58)	3.82 (1.78)	4.50 (1.62)	2.64 (1.73)	3.73 (1.78)	3.67 (1.85)	4.36 (1.60)	3.50 (1.54)	4.35 (1.42)	3.60 (1.70)	3.42 (1.71)	1	3.72 (0.11)	7	0.09*
Importance socialize	2.89 (1.88)	3.71 (1.86)	3.82 (1.81)	3.67 (2.11)	2.86 (1.46)	4.00 (2.00)	3.06 (1.95)	4.43 (2.03)	3.11 (2.05)	4.30 (1.72)	3.55 (1.96)	3.05 (2.17)	1	3.51 (0.13)	7	0.17

Note: Table 6 continues. Means are presented. Standard deviations in parenthesis. *** denotes 1% significance, ** denotes 5% significance and * denotes 10% significance.

Table 6: Summary statistics about study behaviour and risk attitude and statistical differences among 12 survey designs (T=1) (continued)

Design 3x4	**Control (T=1)**				**Treatment (T=1)**				**Mix (T=1)**				**Min**	**Mean (T=1)**	**Max**	**P-value**
Performance - Sociability fictive student	**Better - More**	**Better - Less**	**Lower - More**	**Lower - Less**	**Better - More**	**Better - Less**	**Lower - More**	**Lower - Less**	**Better - More**	**Better - Less**	**Lower - More**	**Lower - Less**				
Importance showing capabilities	2.79 (2.10)	3.06 (1.92)	3.41 (1.97)	2.83 (2.26)	2.23 (1.63)	2.77 (1.80)	2.83 (1.76)	3.07 (2.16)	2.56 (1.82)	3.40 (1.60)	2.90 (1.83)	2.42 (1.64)	1	2.84 (0.12)	7	0.70
Importance avoiding distraction	5.63 (1.67)	4.88 (1.59)	4.88 (1.69)	5.22 (1.63)	5.75 (0.92)	5.43 (1.99)	5.44 (1.38)	5.71 (1.94)	5.56 (1.10)	4.50 (1.70)	5.25 (1.89)	5.26 (1.63)	1	5.28 (0.11)	7	0.30
Importance being at home	4.63 (1.80)	4.29 (1.57)	4.76 (1.60)	5.00 (1.94)	5.09 (1.34)	4.32 (1.84)	4.11 (1.84)	4.07 (1.69)	4.56 (1.62)	4.75 (1.68)	5.05 (1.61)	4.84 (1.57)	1	4.64 (0.11)	7	0.62
Importance travel distance	4.47 (2.37)	5.06 (1.89)	5.59 (0.94)	4.83 (1.86)	4.82 (1.92)	4.27 (1.96)	5.22 (1.44)	3.50 (2.10)	5.33 (1.41)	5.00 (1.34)	5.20 (1.82)	4.79 (1.58)	1	4.85 (0.12)	7	0.35
Days at university	2.47 (1.02)	2.82 (1.24)	2.18 (0.81)	2.61 (1.20)	2.59 (0.96)	3.05 (1.46)	3.06 (0.80)	2.27 (1.10)	2.61 (0.98)	2.90 (1.21)	2.20 (0.83)	2.63 (0.96)	0	2.63 (0.07)	6	0.16

Note: Table 6 continues. Means are presented. Standard deviations in parenthesis. *** denotes 1% significance, ** denotes 5% significance and * denotes 10% significance.

Table 6: Summary statistics about study behaviour and risk attitude and statistical differences among 12 survey designs (T=1) (continued)

Design 3x4	**Control (T=1)**				**Treatment (T=1)**				**Mix (T=1)**				**Min**	**Mean (T=1)**	**Max**	**P-value**
Travel time	4.21 (2.20)	4.35 (2.18)	4.18 (2.35)	4.44 (2.12)	4.41 (2.48)	3.73 (2.05)	3.89 (1.91)	4.00 (2.62)	5.22 (1.99)	3.60 (1.60)	4.60 (2.09)	3.79 (2.49)	1	4.20 (0.14)	7	0.69
Ambitiousness	5.58 (1.07)	5.29 (0.92)	5.44 (0.81)	4.78 (0.88)	5.09 (0.81)	5.30 (1.08)	5.17 (0.99)	5.07 (1.03)	5.11 (1.37)	5.38 (1.16)	4.95 (1.19)	5.11 (1.15)	2	5.19 (0.07)	7	0.65
Overall grade	7.03 (0.96)	6.78 (0.99)	6.93 (0.82)	6.66 (0.86)	6.69 (0.82)	6.54 (0.79)	6.93 (1.07)	6.49 (0.90)	6.58 (0.70)	6.94 (0.84)	6.47 (0.71)	6.95 (0.83)	4.83	6.75 (0.06)	8.87	0.52
Usual risk taking	5.84 (2.41)	5.00 (1.87)	5.68 (2.02)	5.56 (2.04)	5.73 (1.83)	5.86 (1.88)	4.44 (2.20)	6.00 (2.04)	6.00 (2.00)	6.15 (2.32)	6.10 (2.00)	5.21 (1.75)	1	5.64 (0.14)	10	0.28
Study risk taking	6.89 (1.59)	6.12 (1.36)	6.82 (1.07)	6.28 (1.23)	6.27 (1.49)	6.34 (1.89)	5.67 (2.28)	6.33 (1.29)	6.33 (1.97)	6.68 (1.10)	6.05 (2.09)	6.47 (2.25)	1	6.36 (0.11)	10	0.74
Being sure of employment after studies	3.22 (0.73)	3.06 (0.66)	3.35 (0.49)	2.89 (0.90)	3.09 (0.68)	3.23 (0.61)	3.44 (0.51)	3.20 (0.68)	3.33 (0.59)	3.40 (0.50)	3.05 (1.05)	3.22 (0.73)	1	3.21 (0.05)	4	0.85

Note: Table ends here. Means are presented. Standard deviations in parenthesis. *** denotes 1% significance, ** denotes 5% significance and * denotes 10% significance.

Table 7: Summary statistics about study behaviour and risk aversion and statistical differences

	Control (T=1)	Control (T=2)	Treatment (T=1)	Treatment (T=2)	Min	Mean (T=1)	Mean (T=2)	Max	P-value (T=1)	P-value (T=1=2)
Number	107		118							
Studying on campus in percentages	23.64 (27.46)	16.50 (29.12)	24.66 (27.04)	21.72 (30.91)	0	24.18 (27.19)	19.24 (30.12)	100	0.78	1.00
Study hours	2.40 (1.42)	2.83 (1.68)	2.37 (1.59)	2.77 (1.65)	1	2.38 (1.51)	2.80 (1.66)	9	0.91	0.16
Importance talk / advise about study	3.86 (1.65)	3.80 (1.54)	3.60 (1.76)	3.80 (1.52)	1	3.72 (1.71)	3.80 (1.52)	7	0.25	0.78
Importance socialize	3.61 (1.91)	3.56 (1.71)	3.44 (1.98)	3.39 (1.71)	1	3.52 (1.94)	3.47 (1.71)	7	0.51	0.48
Importance showing capabilities	3.06 (1.97)	3.05 (1.66)	2.64 (1.73)	2.83 (1.68)	1	2.84 (1.86)	2.93 (1.67)	7	0.09*	0.68

Note: Table continues. Means are presented. Standard deviations in parenthesis. *** denotes 1% significance, ** denotes 5% significance and * denotes 10% significance.

Table 7: Summary statistics about study behaviour and risk aversion and statistical differences (continued)

	Control (T=1)	Control (T=2)	Treatment (T=1)	Treatment (T=2)	Min	Mean (T=1)	Mean (T=2)	Max	P-value (T=1)	P-value (T=1=2)
Importance avoiding distraction	5.19 (1.66)	5.36 (1.29)	5.39 (1.58)	5.30 (1.52)	1	5.30 (1.62)	5.33 (1.41)	7	0.35	0.90
Importance being at home	4.70 (1.66)	4.73 (1.64)	4.59 (1.69)	4.48 (1.70)	1	4.64 (1.67)	4.60 (1.68)	7	0.62	0.29
Importance travel distance	4.98 (1.71)	4.96 (1.64)	4.74 (1.85)	5.02 (1.69)	1	4.85 (1.79)	4.99 (1.66)	7	0.30	0.49
Days at university	2.60 (1.05)	2.31 (1.22)	2.65 (1.11)	2.48 (1.31)	0	2.63 (1.08)	2.40 (1.26)	6	0.71	0.70
Travel time	4.17 (2.14)	-	4.22 (2.20)	-	1	4.20 (2.17)	-	7	0.86	-
Ambitiousness	5.31 (0.96)	-	5.08 (1.11)	-	2	5.19 (1.05)	-	7	0.09*	-

Note: Table continues. Means are presented. Standard deviations in parenthesis. *** denotes 1% significance, ** denotes 5% significance and * denotes 10% significance.

Table 7: Summary statistics about study behaviour and risk aversion and statistical differences (continued)

	Control (T=1)	Control (T=2)	Treatment (T=1)	Treatment (T=2)	Min	Mean (T=1)	Mean (T=2)	Max	P-value (T=1)	P-value (T=1=2)
Overall grade	6.74 (0.84)	-	6.75 (0.89)	-	4.83	6.80 (0.86)	-	8.87	0.93	-
Usual risk taking	5.61 (2.11)	-	5.67 (1.99)	-	1	5.64 (2.04)	-	10	0.83	-
Study risk taking	6.52 (1.48)	-	6.20 (1.85)	-	1	6.36 (1.69)	-	10	0.16	-
Being sure of employment after studies	3.18 (0.70)	-	3.23 (0.70)	-	1	3.21 (0.70)	-	4	0.61	-

Note: Table ends here. Means are presented. Standard deviations in parenthesis. *** denotes 1% significance, ** denotes 5% significance and * denotes 10% significance.

Table 8: Regressions

Dependent variables: Study time in percentages (1a, 2a and 2b) or in hours (1b, 3a and 3b)	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
Specification	OLS	OLS	FE	FE	FE	FE
Treatment	-	-	-2.70 (2.63)	-40.98** (19.92)	0.02 (0.20)	-0.54 (1.72)
Treatment*overall grade	-	-	-	1.97 (1.37)	-	0.02 (0.23)
Treatment*risk aversion	-	-	-	4.01 (2.65)	-	0.07 (0.10)
Importance to talk / ask advise	2.04* (1.05)	0.11 (0.11)	1.58 (0.198)	1.58 (1.25)	0.16 (0.11)	0.16 (0.11)
Importance to socialize	0.21 (1.06)	-0.02 (0.10)	-0.12 (1.23)	-0.07 (0.91)	-0.06 (0.08)	-0.06 (0.08)
Importance to show capabilities	-2.73*** (1.01)	-0.16** (0.08)	-0.88 (1.27)	-0.84 (1.31)	-0.02 (0.89)	-0.03 (0.09)
Importance to avoid distractions	0.08 (1.08)	0.10 (0.09)	-1.12 (1.07)	-1.15 (1.04)	-0.12 (0.09)	-0.13 (0.09)
Importance to be at home	-7.32*** (1.09)	-0.41*** (0.14)	0.17 (1.56)	-0.18 (1.50)	-0.01 (0.13)	-0.01 (0.13)
Importance of travel time given travel time	0.14*** (0.04)	-0.012*** (0.00)	0.00 (0.10)	0.018 (0.10)	0.00 (0.01)	0.00 (0.01)

Note: Table continues. Robust standard errors in parenthesis. Fixed effect robust standard errors are clustered. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance. Table continues.

Table 8: Regressions (continued)

Dependent variables: Study time in percentages (1a, 2a and 2b) or in hours (1b, 3a and 3b)	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
Specification	OLS	OLS	FE	FE	FE	FE
Overall grade	-4.51*** (1.66)	-0.40** (0.19)	(omitted)	(omitted)	(omitted)	(omitted)
Constant	94.95*** (0.000)	6.39*** (2.27)	24.49 (0.10)	25.20** (10.61)	1.89**	1.90**
Observations	222	222	437	437	437	437
R-squared (overall)	0.3637	0.2049	0.0084	0.0210	0.00	0.00
Rho	-	-	0.65	0.65	0.74	0.74

Note: Table ends here. Robust standard errors in parenthesis. Fixed effect robust standard errors are clustered. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance.

Table 9: Correlations Models 1, 2 and 3

	Studying on-campus in percentage	Studying on-campus in hours	Treatment	Importance to...							
				talk / ask advise	socialize	show capabilities	avoid distractions	be at home	travel time* travel time	Overall grade	Overall risk aversion
Studying on-campus in percentages	1.0000*										
Studying on-campus in hours	0.7740*	1.0000*									
Treatment	0.0218	0.1008	1.0000*								
Importance to talk / ask advise	0.1730	0.1033	-0.0795	1.0000*							
Importance to socialize	0.0894	0.0206	-0.0466	0.4471*	1.0000*						
Importance to show capabilities	-0.0485	-0.0639	-0.1054	0.4043*	0.6096*	1.0000*					

Note: Table continues. * denotes correlation ≥ 0.4.

Table 9: Correlations Models 1, 2 and 3 (continued)

Importance to avoid distractions	0.0154	0.0841	0.0630	-0.0823	-0.3120	-0.2712	1.0000*				
Importance to be at home	-0.5300*	-0.3612	-0.0380	-0.1617	-0.1892	-0.1065	0.0419	1.0000*			
Importance of travel time given travel time	-0.3352	-0.2702	-0.0380	-0.1354	-0.1780	-0.1376	0.0680	0.3278	1.0000*		
Overall grade	-0.2163	-0.1985	0.0135	-0.1117	-0.1018	-0.0381	-0.0445	0.1083	0.0833	1.0000*	
Overall risk aversion	0.1264	0.0979	0.0005	-0.0316	0.1271	0.0414	-0.1544	-0.2052	-0.11880	-0.0668	1.0000*

Note: Table ends here. * denotes correlation ≥ 0.4.

Table 10: Within and between variation panel data

Variable		Mean	Std. Dev.	Min	Max	Observations
Studying on-campus in percentages	Overall	21.73	28.75	0	100	N = 446
	Between		25.50	0	100	n = 225
	Within		13.17	-28.27	71.73	T = 1.98
Studying on-campus in study hours	Overall	1.55	2.65	0	22.5	N = 446
	Between		2.44	0	22.5	n = 225
	Within		1.02	-2.95	6.05	T = 1.98
Treatment	Overall	0.26	0.44	0	1	N = 450
	Between		0.25	0	0.5	n = 225
	Within		0.36	-0.24	0.76	T = 2
Treatment*overall risk aversion	Overall	1.49	2.70	0	9	N = 450
	Between		1.59	0	4.5	n = 225
	Within		2.18	-3.01	5.99	T = 2
Treatment*overall grade	Overall	1.77	3.01	0	8.73	N = 450
	Between		1.72	0	4.37	n = 225
	Within		2.47	-2.60	6.14	T = 2
Importance to talk / ask advise	Overall	3.76	1.62	1	7	N = 446
	Between		1.36	1	6.5	n = 225
	Within		0.88	0.76	6.76	T = 1.98
Importance to socialize	Overall	3.50	1.83	1	7	N = 448
	Between		1.62	1	7	n = 225
	Within		0.85	0.50	6.50	T-bar = 1.98
Importance to show capabilities	Overall	2.89	1.76	1	7	N = 448
	Between		1.57	1	7	n = 225
	Within		0.80	-0.11	5.89	T-bar = 1.99

Note: Table continues.

Table 10: Within and between variation panel data (continued)

Importance to avoid distractions	Overall	5.31	1.52	1	7	N = 447
	Between		1.28	1	7	n = 225
	Within		0.82	2.31	8.31	T-bar = 1.99
Importance to be at home	Overall	4.62	1.67	1	7	N = 448
	Between		1.53	1	7	n = 225
	Within		0.68	1.62	7.62	T-bar = 1.99
Importance of travel distance given travel time	Overall	52.68	34.39	0	122.5	N = 450
	Between		33.24	2.5	122.5	n = 225
	Within		8.95	8.93	96.43	T = 2

Note: Table ends here.

Table 11: Summary statistics about choice decisions and statistical differences between designs over time

	Control (T=1)	**Treatment (T=1)**	**Min (T=1)**	**Mean (T=1)**	**Max (T=1)**	**P-value (T=1)**
Number	107	118				
Referral home-studying student over on-campus	0.028 (0.10)	-0.20 (0.098)	-2	-0.093	2	0.10*
Productivity fictive home-studying student compared to on-campus	4.10 (1.52)	4.28 (1.62)	1	4.20 (1.57)	7	0.39
Ambitiousness fictive home-studying student compared to on-campus	3.84 (1.24)	3.68 (1.38)	1	3.76 (1.31)	7	0.39
Likeliness to be forgotten fictive home-studying student compared to on-campus	4.47 (1.42)	4.58 (1.47)	1	4.53 (1.45)	7	0.56

Note: Table continues. Robust standard errors in parenthesis. Fixed effect robust standard errors are clustered. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance.

Table 11: Summary statistics about choice decisions and statistical differences between designs over time (continued)

Likeliness to show capabilities fictive home-studying student compared to on-campus	3.81 (1.27)	3.83 (1.42)	1	3.82 (1.35)	7	0.94
Importance grades in referral decision	6.19 (1.62)	6.21 (1.92)	0	6.20 (1.78)	10	0.93
Importance sociability in referral decision	7.35 (1.28)	7.04 (1.68)	0	7.19 (1.68)	10	0.13
Importance observability in referral decision	4.73 (2.21)	4.84 (2.55)	0	4.79 (2.39)	10	0.73
Studying on campus	23.64 (27.46)	24.66 (27.04)	0	24.18 (27.19)	100	0.78
Overall grade	6.74 (0.84)	6.75 (0.89)	4.83	6.75 (0.86)	8.87	0.93

Note: Table ends here. Robust standard errors in parenthesis. Fixed effect robust standard errors are clustered. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance.

Table 12: Regressions model 4

Dependent variable: Job referral	(4a)	(4b)	(4c)	(4d)	(4e)
Specification	OLS	OLS	OLS	OLS	OLS
Treatment	0.04 (0.05)	0.01 (0.05)	0.04 (0.07)	-0.05 (0.05)	-0.04 (0.04)
Productivity home-studying student compared to on-campus	0.00 (0.02)	-0.01 (0.02)	-0.00 (0.02)	-0.00 (0.02)	0.02 (0.01)
Ambitiousness home-studying student compared to on-campus	-0.02 (0.02)	-0.03 (0.02)	0.01 (0.03)	0.01 (0.02)	0.02 (0.02)
Forgetability home-studying student compared to on-campus	-0.01 (0.02)	0.02 (0.02)	0.05** (0.03)	-0.01 (0.02)	-0.02 (0.01)

Note: Table continues. Robust standard errors in parenthesis. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance.

Table 12: Regressions model 4 (continued)

Dependent variable: Job referral	(4a)	(4b)	(4c)	(4d)	(4e)
Specification	OLS	OLS	OLS	OLS	OLS
Showing capabilities home-studying student compared to on-campus	-0.04** (0.02)	0.01 (0.02)	0.03 (0.03)	0.03* (0.02)	0.04** (0.01)
Importance grades	0.00 (0.01)	0.03** (0.02)	-0.01 (0.02)	-0.01 (0.01)	-0.02 (0.01)
Importance sociability	-0.00 (0.01)	-0.00 (0.02)	-0.01 (0.02)	-0.00 (0.02)	0.02 (0.01)
Importance observability	0.02** (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.00)
Studying on campus	0.00* (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)

Note: Table continues. Robust standard errors in parenthesis. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance.

Table 12: Regressions model 4 (continued)

Dependent variable: Job referral	(4a)	(4b)	(4c)	(4d)	(4e)
Specification	OLS	OLS	OLS	OLS	OLS
Overall grade	-0.01 (0.03)	0.01 (0.03)	0.01 (0.04)	-0.01 (0.03)	0.01 (0.02)
Constant	0.29 (0.24)	0.16 (0.27)	0.19 (0.37)	0.28 (0.25)	0.07 (0.21)
Dummy outcome observations	27	37	112	28	21
R-squared (overall)	0.09	0.05	0.04	0.04	0.07

Note: Table ends here. Robust standard errors in parenthesis. *** denotes 1% significance, ** denotes 5% significance, * denotes 10% significance.

Table 13: Correlations model 4

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Choice 4a (1)	1.000*													
Choice 4b (2)	-0.166	1.000*												
Choice 4c (3)	-0.366	-0.439*	1.000*											
Choice 4d (4)	-0.141	-0.170	-0.373	1.000*										
Choice 4e (5)	-0.120	-0.145	-0.318	-0.123	1.000*									
Prod (6)	-0.59	-0.091	0.046	0.009	0.094	1.000*								
Amb (7)	-0.079	-0.115	0.064	0.057	0.081	0.415*	1.000*							
Oosm (8)	0.004	-0.084	0.145	-0.077	-0.057	0.198	0.122	1.000*						
Showcap (9)	-0.155	0.015	0.098	0.112	-0.140	0.070	0.155	0.064	1.000*					
Δgrades (10)	-0.018	0.162	-0.013	-0.050	-0.106	-0.014	0.026	0.062	0.025	1.000*				
Δsocia (11)	0.000	-0.031	-0.007	-0.011	0.062	0.012	0.027	0.134	0.112	-0.000	1.000*			
Δobs (12)	0.164	-0.042	-0.028	-0.077	0.006	-0.011	-0.002	0.220	0.145	0.039	0.112	1.000*		
Campus (13)	0.157	-0.050	-0.041	-0.032	-0.005	-0.133	-0.003	0.010	-0.004	-0.118	0.073	0.139	1.000*	
O_grade (14)	-0.075	0.079	0.018	-0.031	-0.014	-0.026	-0.015	-0.010	0.044	0.332	-.0102	-0.037	-0.210	1.000*

Note: * denotes correlation ≥ 0.4. See Table 5 for meaning variables.