Annotation. How effective is education as a signal for attracting future employers? With a sample of 143 human resource managers from Iceland’s 300 largest companies, we conducted a framed field experiment to see if academic achievement and school choice influenced the job candidate’s employability and salary. Candidates from public and private schools were seen as equally qualified and hirable, with public school candidates potentially getting offered a 9.8% higher salary.

Keywords: education, type of university, labour market, grades.

Introduction

There is an array of factors that can contribute to one’s desired outcomes in life and the connection is obvious, for example, financial literacy from an early age (Guðjónsson et al., 2022). However, other factors are deeper intertwined with the context and are more salient, such as choices in education. Education is an important part of people’s lives and choosing a university education can be one of the most important decisions made. Two questions, however, are especially important for students going to university. The first question is whether it is worthwhile to pay significantly higher tuition fees for a private school over a public school. Since students typically have limited financial resources, the answer to this question can make a significant difference. The second question arises
When a university degree is selected. How much effort and time students should devote to their studies, that is, will good grades help in the labor market?

We investigate these questions in this paper by conducting a framed field experiment on a sample of human resource managers in the Icelandic labor market (Knouse, 1994; Thoms et al., 1999; Tsai et al., 2011; Noble et al., 2021). Framed field experiments are well known in economics, psychology, and sociology for their ability to isolate the variable of interest using experimental formats. There are numerous influencing factors in the labor market, so this format is well suited to examine the content of this study, namely the effect of attending either public or private schools, and the consequences of academic achievement on the labor market.

**Public Versus Private Schools**

Private schools are more often productive than public schools at a lower cost, and are thus superior (Figlio & Stone, 1997; Moulin, 2022). When it comes to operations, private schools outperform public schools because the cost per student is lower (Jiminez & Lockheed, 1995; Bedi & Garg, 2000). Private schools respond to competition in ways that public schools do not, when it comes to providing educational services and are therefore superior (Figlio & Stone, 1997; Hermann & Nagel, 2022). This is due to one of two factors. First, because the private sector is vulnerable to competition, it must be more concerned with product quality than public schools. Second, the private sector has greater influence over product quality than the public sector, which is more fixed by legal and political constraints (Dronkers & Robert, 2008).

The management, teaching, and learning environments in public and private schools differ. In terms of funding and management, public schools are completely reliant on the state, but private schools differ in terms of where their funding comes from. Those schools that receive state funding have less control over study materials, exam types, teacher salaries, and student admissions. Private schools are more dependent on tuition fees and fundraising; however, they often also rely on the state for further support. Private schools also have more efficient management than public schools, and that is reflected in better overall results (Dronkers & Robert, 2008; Alam, 2020; Jiminez & Lockheed, 1995).

Private school students are often sent to private school by higher-income families who spend more money on their children’s education (Figlio & Stone, 1997; Brewer et al., 1996; Crawford et al., 2016). Students with a high average grade make up the vast majority of students in high-quality schools (Brewer et al., 1999). As a result, private schools have a better reputation for quality than public schools and thus attract a diverse range of better students (Dronkers & Robert, 2008; Karakas, 2021). According to Grimes (1994), the perceived social status of a student who has completed private schooling is the most beneficial factor of private schooling. The disparities in student performance between public and private schools appear to be racial. White students performed better in private schools than in public schools, and
they are significantly larger in proportion. Minority groups did not perform better in private schools (Stevans & Sessions, 2000; Valente, 2016).

Bowman and Mehay (2002) investigated whether the quality of universities and individuals’ education had any effect on the performance of officers in the United States Navy. They drew on a unique Navy database of officers from nearly 1,000 different universities. They were able to identify significant differences in careers, job allocations, and incentives in this way, which are impossible to manage in traditional research based on national sampling. The findings revealed that officers who had graduated from a private school, regardless of their level of quality, had a higher performance rating than other officers. Students from the most prestigious private schools were more likely to be promoted than other officers in both occupational groups. This study expands our understanding of how academic achievement and university quality are related to employee productivity. Controlling for average grade and main subject, the findings revealed that graduates from reputable private schools were more productive at work than their peers (Bowman & Mehay, 2002). Since previous research has found that students from private schools are more qualified than students from public schools, the following hypothesis is proposed:

**Hypothesis 1**: A private school student is considered more qualified than a public-school student.

**Financial Benefits of Public and Private Schools**

Why should students pay the higher tuition fees charged by private schools when lower tuition fees are available at public schools? The answer could be that those who attended private schools can expect to benefit financially in the labor market (Brewer et al., 1999).

Many researchers who have investigated the financial benefits of university quality have used a National Longitudinal Surveys database (NLS). Loury and Garman (1995) examined data on students who finished primary school in 1972 and discovered that both university choice and average grade had a positive effect on weekly income.

In a study to assess the impact of school quality on future income, James et al. (1980) discovered that private schools in the Eastern States of the United States enjoyed a significant advantage of 5% over public schools. Brewer and Ehrenberg (1996) and Brewer et al. (1999) also examined the NLS database, and found that attending an elite private college provided a significant financial benefit, whereas attending a medium-rated private university provided a small financial benefit when compared to a public school that was rated low (Brewer et al., 1999).

The results of the research above align with newer studies (Sude et al., 2017; Egalite & Wolf, 2016) and show that students from private schools enjoy financial benefits over students from public schools. Therefore, the following hypothesis is put forward:

**Hypothesis 2**: A student from a private school is offered a higher salary than a student from a public school.
Student Achievement and Grades

Recruiters frequently use the average grade to find preferred candidates (Thorson, 2005). A high average grade can signal to an employer that the applicant possesses desired characteristics such as conscientiousness, intelligence, and not frequent absenteeism. As a result, the applicant with a high average grade may receive a higher starting salary. Other factors such as opportunity, experience, and performance are more likely to influence the salary after the applicant has been offered the job (Fuller & Schoenberger, 1991). However, there has been considerable debate over whether university grades can predict individuals’ labor-market performance, and this research topic is far from new.

While early studies found that average score is positively correlated with job performance (Harrell, 1969; 1970; 1972; Harrell et al., 1974), in other cases a negative correlation has been found (Jepson, 1951; Pfeffer, 1977), and finally, Bretz Jr (1989), who conducted a meta-analysis on the issue, found that there was no relationship whatsoever between average grade from a university and job success.

According to Baird (1985), employers believe that grades help candidates perform well in their jobs. A study by Roth et al. (1996), found that grades can predict job performance. The overall correlation was 0.16, which is considered low, but after accounting for research artifacts, the correlation increased to 0.30. These findings suggest that the average grade has a greater predictive value for job performance than previously thought.

According to Miller (1998), high grades predict higher incomes and thus higher productivity in the long run for both men and women, despite being adjusted for race, region, school type, and level of education. Furthermore, according to Jones and Jackson (1990), college grades can be used to predict job performance. The study’s participants were asked to rate how well their school experience prepared them for their first job. According to the findings, those with higher grades felt more prepared for their first job (Jones & Jackson, 1990).

Results from previous research usually show that students with a high average grade are considered more qualified than students with a low average grade, so the following hypothesis is presented:

**Hypothesis 3:** A candidate with a high average grade (8.5) is assessed as more qualified than an applicant with a low average grade (6.5).

Whether an average grade should be included in a curriculum vitae or not is typically determined by the applicant’s average grade, i.e., to increase the impact it has on the recruiter, it might be a good idea to include it if the grades are high and skip in cases where they are low (Thoms et al., 1999).

By evaluating CVs that differed by gender, age, marital status, and academic achievement, the results revealed that CVs that lacked information on academic achievement (average grade) scored the lowest, with 3.41, those with poor academic performance received a slightly higher rating of 3.54, while those with good academic performance
received the highest rating of 5.20. (Oliphant & Alexander II, 1982). Furthermore, Thoms et al. (1999) discovered that CVs with a medium average grade were more likely to be chosen than CVs without an average grade. CVs from applicants with a high average grade were also chosen more frequently than CVs from applicants with a low average grade.

Since students with a high average grade were more likely than students with a low average grade to get a job interview, it is likely that these students will also be hired, and we know from previous literature that students with a high average grade earn a higher starting salary than students with a low average grade (Filler, 1981; Filler, 1983; Wise, 1975). Therefore, the following hypothesis is proposed.

**Hypothesis 4:** An applicant with a high average grade (8.5) is offered a higher salary than an applicant with a low average grade (6.5).

**Hypothesis 5:** An applicant with a high average grade (8.5) is more likely to be invited for a job interview than an applicant with a low average grade (6.5).

**Hypothesis 6:** An applicant with a high average grade (8.5) is more likely to be hired than an applicant with a low average grade (6.5).

**Method**

**Participants**

Credit Info provided a list of the 300 largest companies in Iceland based on the registered number of employees. The authors then explored the websites of the companies to find the e-mail addresses of human resources managers. If an e-mail address could not be found on a website, the companies were contacted and asked for an e-mail address for the human resources manager. In the absence of a human resources manager, an email address for their equivalent was requested.

Those who hold the professional titles of human resources manager, resources manager, recruitment manager, managing director, or those in charge of human resources, will be referred to as human resources managers hereafter. There were 143 participants, with a 49.3% response rate. The gender split was even, with 49% of the participants being men and 51% being women. The majority of participants (39.2%) were between the ages of 41 and 50, while 37.8% were between 31 and 40.

**Measurements**

A framed field experiment was conducted with human resources managers evaluating one of four resumes in a 2 (private school / public school) x 2 (high / low average grade) format to see if academic achievement and school choice influenced the job candidate’s employability and salary. The applicant had a high average grade (8.5) in two cases and a
low average grade in the other two (6.5). Except for the adjustment of the e-mail address by the schools, all other information in the CV remained the same. Participants were asked to act as human resources managers for a fictitious telephone company called TriX.

A job advertisement for a project manager was created. The advertisement included a job description that explained what the job entailed and what qualifications the applicant needed to meet. Participants were asked to rate the applicant based on a curriculum vitae that included information about the applicant’s personal history, education, work experience, and hobbies. The questionnaire was original, and it was created with the research hypotheses in mind.

The questionnaire included 14 questions designed to determine whether the applicant’s school choice and average grade had an impact on employment and wages, among other things. Using a seven-point Likert scale, questions 1–6 were designed to assess participants’ attitudes toward the applicant’s ability, likelihood of being hired, and invitation to an interview. Questions 6-8 were open-ended questions about the salaries and work experience of the participants. Question 9 was left open-ended, with participants asked what was most important when recruiting. Questions 10–14 asked about the participants’ backgrounds.

The human resources manager’s e-mail addresses were randomly arranged in the Excel account program, and the four questionnaires were distributed evenly to the e-mail addresses. The questionnaires were created with the help of the website http://www.createsurvey.com and e-mailed to 290 companies along with a cover letter outlining the study. Participants could answer the questionnaire electronically by clicking on a link at the end of the cover letter. Three reminder emails were sent. Participants were finally called and encouraged to respond to the list to maximize responses. The true purpose of the study was not revealed, but when questioned, the researcher stated that the salary and employment opportunities of business professionals were being investigated.

Results

Public and Private Schools

As shown in Figure 1, there was no difference in participants’ assessments of the applicant’s qualifications based on school (public school / private school) \( t (141) = 1.321, p > 0.05 \). The first hypothesis, that a student from a private school is more qualified than a student from a public school, did not hold up.
Participants were willing to pay a higher salary to a public-school applicant than to a private school applicant. Figure 2 shows that on average, participants were willing to offer ISK 412,071 to a public-school applicant, while ISK 375,373 to a private-school applicant.
Participants were thus willing to pay 9.8% more to a public-school applicant than to a private school applicant ($t(135) = 3.041$, $p < 0.05$). Hypothesis 2 did not hold because participants were unwilling to pay a higher salary to a student from a private school than a student from a public school.

**Applicants’ Grades**

As shown in Figure 3, participants rated an applicant with a high average grade as more qualified for the job than an applicant with a low average grade. Participants assigned a grade of 5.35 to an applicant with a high average grade and a grade of 4.69 to an applicant with a low average grade ($t(141) = -3.032$, $p < 0.05$). The effect size was calculated to be $r = 0.25$, which is considered a small / medium effect by Cohen’s criteria (Field, 2005). Hypothesis 3 was successful, indicating that an applicant with a high average grade is considered more qualified than an applicant with a low average grade.

**Figure 3**

_Evaluation of Competence by Average Grade (1 = not competent, 7=competent)_

![Figure 3](image-url)

Figure 4 shows that participants were not prepared to offer a high-average grade applicant a higher salary than an applicant with a low-average grade ($t(135) = 0.244$, $p > 0.05$). Hypothesis 4 that an applicant with a high average grade is offered a higher salary than an applicant with a low average grade, did not hold up.
As shown in Figure 5, participants were more likely to invite an applicant with a high average grade to a job interview (5.54) than an applicant with a low average grade (4.71) \( t(139) = -3.005, p > 0.05 \).

Figure 5

Likelihood of Job Interview Based on Average Grades (1 = very unlikely, 7 = very likely)
When the effect size was examined, it was found to be $r = 0.25$, which is a small / medium effect by Cohen's standards. Participants are more likely to invite an applicant with a high average grade to a job interview than an applicant with a low average grade; hence, Hypothesis 5 holds up.

As shown in Figure 6, participants were more likely to hire an applicant with a high average grade (4.71) than an applicant with a low average grade (3.99) ($t (138) = -2.953$, $p < 0.05$). The effect size was calculated, $r = 0.24$, indicating a small / medium effect by Cohen's standards. Hypothesis 6 was successful, stating that an applicant with a high average grade was more likely to be hired than an applicant with a low average grade.

**Figure 6**

*Likelihood of Getting Hired by Average Grade (1 = very unlikely, 7 = very likely)*

![Likelihood of Getting Hired by Average Grade](image)

**Discussion and Conclusions**

It is clear from the results that participants made no distinction between the applicant’s qualifications for the likelihood of a job interview or employment based on the applicant’s school. Hypothesis one, that a student from a private school (RU) was more qualified than a student from a public school (UI), was not supported. Some studies (Noell, 1981; Noell, 1982; Stevans & Sessions, 2000; Egalite & Wolf, 2016) support this, while others do not (Bowman & Mehay, 2002; Dronkers & Roberts, 2008; Grimes, 1994).

It is noteworthy that the second hypothesis, that a student from a private school (RU) was offered a higher salary than a student from a public school (UI), was also rejected, and participants were willing to pay 9.8% more for a student from a public school. This contradicts previous research that found that students who attend private schools have a
financial advantage in the labor market over students who attend public schools (Brewer et al., 1999; James et al., 1989; Weisbrod & Karpoff, 1968; Sude et al., 2017; Egalite & Wolf, 2016).

A possible explanation for these pay gap offers could be that those participants who had completed their last degree at UI were willing to invite a student from UI 8.8% higher salary, i.e., participants who had a common background valued the applicant in a more positive way (Byrne, 1971).

It was also interesting to see that those who had completed their last degree somewhere other than UI or RU also wanted to pay a UI student 11.1% more than an RU student. Reykjavik University, founded in 1998 (Reykjavik University, 2006), is a relatively young school when compared to the University of Iceland, which has a long history, having been founded in 1911 (University of Iceland, etc.), and deep roots in Icelandic society. It is possible that the reputation and image of private schools in Iceland are not as ingrained in people’s minds as they are elsewhere, where the position of students who have completed education from prestigious private schools is perceived more favorably (Grimes, 1994; Stevans & Sessions, 1995). As a result, it is possible that participants do not regard RU students as more qualified than UI students.

However, the findings revealed that the applicant’s average grade had a significant impact on the participants’ evaluations, as they rated the applicant with a high average grade as more qualified and were more likely to invite them for a job interview and hire them. As predicted by hypothesis three, an applicant with a high average grade (8.5) was considered more qualified for the job than an applicant with a low average grade (6.5). This is consistent with previous findings (Thorson, 2005; Jones & Jackson, 1990).

Although an applicant with a high average grade was thought to be more qualified than one with a low average grade, the participants did not appear to be willing to pay them more. As a result, hypothesis four was rejected. The outcomes contradict the findings of several scholars (Weisbrod & Karpoff, 1968; James et al., 1989; Jones & Jackson, 1990; Schoenberger & Fuller, 1991; Wise, 1975; Filer, 1981; Filler, 1983).

For hypotheses five and six, it was assumed that participants were more likely to invite an applicant with a high average grade to a job interview and more likely to hire him. The finding is in line with the results of previous studies (Thoms et al., 1999; Oliphant & Alexander, 1982; Baird, 1985).

Restrictions and Further Research

The questionnaire was submitted electronically, so situational errors are possible. It would have been preferable to submit the questionnaire on paper, but that would have been difficult to implement and time consuming. Participants were only asked to rate one candidate, which may have influenced their evaluation because there was no comparison, as is customary in the actual recruitment process. It is worth noting that the explanatory ratio was small / medium (r = 0.23-0.32) in the effect size calculations.
Since this study only involved a newly graduated business graduate from the University of Iceland or Reykjavik University, it would be interesting to expand the study and investigate whether academic achievement and choice of other schools in Iceland, such as the University of Akureyri or Bifröst University, both of which are public, would affect employment and wages. Furthermore, it would be interesting to investigate other subjects such as law, computer science, or psychology and see if the evaluations are similar to those for business graduates. Finally, it would be interesting to investigate how high the average score needs to be to influence the assessments of the participants. Such results would give students an insight into whether the first grade was sufficient to get a more favorable assessment.

According to the findings of this study, students from public schools are not worse off than students from private schools when it comes to entering the labor market. Students from public schools are evaluated as qualified and frequently recruited, and they benefit financially more than students from private schools. These must be considered positive outcomes because not everyone can afford to pay high tuition fees to attend private schools. As a result, regardless of financial status, educational opportunities should be equal for all. It is unknown whether better teaching occurs in private schools, which should be the subject of a more extensive study. This research only looks at how human resource managers evaluate students from these two schools. Finally, it must be noted that academic achievement pays-off, as students who have a high average grade are considered more qualified for the job and are more likely to get a job interview and be hired.

References


Įdarbinsite mane ar ne? Pažymių ir universiteto tipo įtaka sėkmei darbo rinkoje

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Santrauka


Esminiai žodžiai: išsilavinimas, universiteto tipas, darbo rinka, pažymiai.