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Salary Versus Impact and Sustainability in Job Offers; A Vignette Study

Name student: Noa Agami

Student ID number: 620294

Supervisor: Prof. Josse Delfgaauw

Second Assessor: Prof. Robert Dur

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## Abstract

Approximately 250.000 vacancies are currently open, the most open vacancies ever seen in the Netherlands. Due to the tight labor market, businesses are making a great effort to recruit employees. Younger and more educated individuals are relatively more concerned about climate change and eager to make an impact in the workplace. In order to attract new employees, companies emphasize applicants' social impact in their vacancies. This study aims to determine how much university students value a meaningful job or a sustainable workplace compared to compensation in job offers. We conducted an experimental vignette study with Dutch university students to answer this question. On average, students are willing to accept a lower salary for a job with greater meaning or at a sustainable company. The outcomes depend on a person's characteristics and area of study. More altruistic and risk-averse students are significantly more willing to accept a lower salary for a job with meaning and a sustainable workplace. Students majoring in economics, finance, or marketing appear less willing to forego financial compensation in exchange for social impact and sustainability at the workplace.

**Keywords:** *Wage differentials; Recruitment; Human capital; Meaningfulness; Sustainability*

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## 1. Introduction

The job market in the Netherlands is currently very tight. There are more job openings than job seekers for the first time in over 50 years. There are 133 job openings for every 100 unemployed people (NOS Nieuws, 2022). Approximately 450.000 vacancies are currently open, the most open vacancies ever seen in the Netherlands (Centraal Bureau voor de Statistiek, 2022). As a result, it is crucial for employers to understand what attracts workers and what they value in job applications. According to Lea Cassar and Stephan Meier (2018), work represents much more than merely earning a living; it is a source of meaning for many people. This, in combination with the tight labor market, causes job seekers to not only seek employment but also to seek employment that contributes to society (NOS Nieuws, 2021). Companies are aware of this, and in order to attract new employees, they emphasize the social impact applicants can have on their job applications.

Previous research, such as by Schneider, Brun, and Weber (2020), has shown that unethical work results in a wage premium. This is related to the principle of compensating wage differentials. The principle of compensating wage differentials is defined as the additional amount of salary that a worker must be offered in order to accept a job that has relatively unappealing characteristics (Duncan & Holmlund, 1983). Most employees place a high value on their job's ability to benefit society, and they suffer when they believe their job is useless (Dur and van Lent, 2018). As a result, if having an impact or working for a sustainable workplace is valuable to someone, they would be willing to accept lower pay for it, according to the principle of compensating wage differentials. This study investigates to what extent students are willing to "pay" (WTP) to have a meaningful job.

Young people and those with higher education are more likely to be concerned about climate change's consequences (Kloosterman et al., 2021). According to Krueger, Metzger, and Wu (2020), workers in companies that operate in more sustainable sectors in Sweden earn roughly 9% less. They argue that the Sustainability Wage Gap arises because workers, mainly young and highly educated, prioritize environmental sustainability and are willing to work for less compensation in more sustainable businesses. They also suggest that organizations with a higher level of sustainability are better able to recruit and retain high-skilled workers. This paper wants further to

explore the Sustainability Wage Gap in the Netherlands. This study investigates to what extent students are willing to “pay” (WTP) to work for a sustainable company.

The phrases having an impact, meaningful job, and sustainable workplace are frequently used in this paper. By “having an impact” and “meaningful job,” we refer to settings in which employees feel that their work benefits society. “Sustainable workplace” refers to a company that pledges to have an environmentally friendly workplace or demonstrates that it is concerned about its environmental impact.

This research aims to determine how much students value a meaningful job or a sustainable workplace relative to pay in a job offer.

The research questions are:

1. To what extent are students willing to accept less pay for a meaningful job?
2. To what extent are students willing to accept less pay for working at a sustainable company?
3. To what extent does the willingness to pay for a meaningful job or sustainable workplace depend on the study field?
4. To what extent does the willingness to pay for a meaningful job or sustainable workplace depend on personal characteristics such as gender, risk preferences, and altruism?

These questions are examined by conducting an experimental vignette study on Dutch university students. The study focuses on students because they are similar to one another in many ways, making the findings more reliable. This study adds to our understanding of how to recruit new employees and whether or not Dutch university students really care about sustainability or making an impact when considering job offers. It is important to note that this study does not examine the actual effect of meaningful work or sustainability of a business, but rather its mention in a job advertisement.

The survey is limited to ten questions to minimize attrition. There are two main questions, which are the dependent variables. First, we show two job offers to see if people are willing to pay more for a more meaningful job. Both job offers are for a data-entry assistant, but job offer one is more descriptive, whereas job offer

two emphasizes the social impact of the job. The first job offer is for an hourly wage of 18 euros. Given the salary of job offer one, we ask the participants at what hourly wage for job two they would rather choose job offer two. The second question is similar but concerns the company description. We again show two job offers. The company description for job offer one is explanatory, whereas the company description for job offer two describes the company's sustainability goals. We again set the first job offer at an hourly wage of 18 euros and asked the participants at what hourly wage for job two they would prefer job offer two.

The results show that, on average, students are willing to accept around one euro less pay for a more meaningful job or sustainable company. However, the outcomes are highly dependent on personal characteristics and field of study. Students who are more altruistic and risk-averse are significantly more willing to accept lower pay in exchange for a meaningful job and a sustainable workplace. Furthermore, students majoring in economics, finance, or marketing appear to be less concerned with their jobs' social impact and the workplace's sustainability.

The paper is organized as follows. Section II is a review of the existing literature. After that, in section III, the vignette design is discussed. In section IV, we explain the summary statistics and methodology. In section V the results and analysis are discussed. The paper will be concluded in section VI.

## 2. Theoretical Framework

In the Netherlands, there is currently a very tight labor market. There is more demand for workers than supply for the first time in over 50 years (NOS Nieuws, 2022). Naturally, this means that in equilibrium, the price of workers (wage) should increase. In order to maximize profit, firms want to set the wage as low as possible. (see equation 1). However, the wage must meet the worker's participation constraint in order to attract workers. Hence, the utility an employee gets from the job should at least be as large as the utility the employee would get doing something else (see equation 2).

$$\pi_j = q_j - w \quad (1)$$

$$U[w, \gamma_i, \theta_j] = w + \gamma_i * \theta_j \geq U^{out} \quad (2)$$

Where;

$\pi_j$  = profit of company j

$q_j$  = output of company j

w = wage

$\gamma_i, i \in \{L, H\}$  = the weight a person sets on social impact (Low or High), where  $\gamma_L < \gamma_H$

$\theta_j \in \{0,1\}$  = the social impact or sustainability of company j

$U^{out}$  = the utility a worker could get doing something else.

A worker's utility depends on the wage and the weight he puts on having a social impact multiplied by the company's social impact. In this paper, we try to compare the two extreme situations, where  $\theta_j = 0$ , the company does not mention its social impact and  $\theta_j = 1$ , the company cares a lot about its social impact.

According to the theory of compensating wage differentials, employees will accept lower pay if their jobs have intrinsic (non-monetary) value (Becchetti, Castriota & Tortia, 2013). Adam Smith first put forth the theory of compensating wage differentials more than 200 years ago (in 1776). According to the theory, occupations with relatively

more desirable traits can offer lower wages as compared to those that are less in demand and less desirable. From equation 2, we can see that if the outside utility of the worker is a similar job, we get:

$$U[w, \gamma_i, \theta_j] = w + \gamma_i * \theta_j \geq U^{out}[w, \gamma_i, \theta_j] = w^{out} + \gamma_i^{out} * \theta^{out} \quad (3)$$

$$w - w^{out} \geq \gamma_i * \theta_j - \gamma_i^{out} * \theta^{out} \quad (4)$$

We can see from equations 3 and 4 that given a worker puts the same weight on social impact for both jobs ( $\gamma_i = \gamma_i^{out}$ ), and  $\theta_j = 1$ ,  $\theta_j^{out} = 0$  the company is able to hire person i, as long  $w \geq w^{out} - \gamma_i * \theta_j$ . As a result, if having an impact or working for a sustainable workplace is valuable to someone, they will accept lower pay for it. The theory also holds in the opposite direction. If the occupation has less desirable traits ( $\theta_j < 0$ ), workers must be offered a higher salary to accept the job. The term “wage premium” refers to the increase in pay for unfavorable work characteristics. There has been a great deal of research done on wage premium (e.g., Schneider, Brun, and Weber (2020), Jean and Nicoletti (2022), Beneish et al. (2008), Gerstein et al. (2004), and Anielski and Braaten (2008)). Employees seek a higher salary when their job or company is less desirable. For example, working for a tobacco, alcohol, or gambling company can harm a worker’s social standing. As a result, they must offer a higher wage in order to recruit employees in those industries. In equilibrium, the marginal worker determines the wage premium. Rosen (1974) proves this, however, in a different context. The wage premium vanishes if, for instance, there are precisely enough workers who do not mind working for those industries (e.g.,  $\gamma_i = 0$ ). Or at least if the marginal worker does not mind working for the industry. In the context of this study, this would imply that companies can offer lower salaries when emphasizing social impact or sustainability if a sufficient number of workers care about impact or sustainability. This effect disappears, however, if companies need to attract more workers and the marginal worker does not care about social impact or sustainability.

This paper uses the terms “having an impact” or “meaningful work” to refer to settings in which employees feel that their work benefits society.

Hu and Hirsh (2017) conducted four studies in Canada to investigate whether or not individuals are prepared to forgo compensation in return for more meaningful work.



One of their studies is a survey in which participants identify the most meaningful job for them and the most useless job. After that, they inquired about the acceptable minimum salary for both meaningful and useless jobs. According to their research, people are willing to take an average of 31 percent less salary for employment that they view as personally meaningful as opposed to the useless job offer. The primary difference between their studies and ours is that in our study, the meaningful and meaningless jobs are identical; only the job description varies. The question that emerged from our method is whether or not the statement is believable. Do students believe that the vacancy that emphasizes the social impact of the job is, in fact, more meaningful? Nevertheless, we predict a similar result to that of Hu and Hirsch's study. Therefore, the first hypothesis is:

*H1: Students are willing to accept less pay in exchange for a meaningful job*

This paper uses the term "sustainable company" to refer to businesses that promote environmental sustainability.

Sustainability is a component of a company's Corporate Social Performance (CSP), which encompasses the principles, practices, and outcomes of businesses' relationships with people, organizations, institutions, communities, societies, and the earth, as well as the unintended externalities of business activity (Wood, 2016). According to studies (e.g., Yu and Cable, (2014) and Greening and Tur-ban, (2000)), companies with a strong CSP can attract more applicants. Jones, Willness, and Madey (2014) conducted a field study with Western Canadian university students. In one of their studies, they examine the impact of altering a company's website to promote environmentally friendly practices. Their findings provide evidence that CSP has a positive causal effect on the attractiveness of organizations.

Krueger, Metzger, and Wu (2020) investigated whether workers place a high value on the industry's sustainability. First, they conducted a survey that revealed that people are willing to work for less money in more sustainable jobs. Afterward, Krueger, Metzger, and Wu used Swedish employer-employee matched data and discovered that workers value environmental sustainability and are willing to accept lower pay to work for companies that operate in more environmentally sustainable industries. Therefore, the second hypothesis is:

*H2: Students are willing to accept less pay to work for a sustainable company*

Dur and van Lent (2018) demonstrate that workers' perceptions of their jobs depend on personal characteristics and their occupation. Economists, marketers, and finance managers find their jobs to be relatively useless. Moreover, various research (e.g., Frey and Meier (2003), Bauman and Rose (2011)) suggest that economic students are relatively selfish and therefore self-select into economic study fields. In addition, throughout their study, economic students become more selfish. Frey and Meier (2003) conducted research among students at the university of Zurich. Every year students get the choice to donate a specific amount of money (around €4) to needy students. Their results suggest that business-economic students give significantly less money than other students due to self-selection rather than indoctrination.

As a result, we would like to know if students self-select into study fields that eventually lead to a more meaningful or sustainable sector.

*H3. Students with an economic, marketing, or finance study field are less willing to exchange pay for a meaningful job and for a sustainable company than students with other study fields.*

Previous research has revealed a gender disparity in environmental education. Zelezny, Chua, and Aldrich (2000) reviewed the literature on gender differences in environmental attitudes and behaviors. One of their findings is that women have stronger attitudes and behaviors toward the environment than men. Furthermore, women have higher levels of social responsibility. According to Pekkanen, Pätäri, Albadera, and Jantunen (2017), women are more interested in sustainability information when purchasing goods. Dur and van Lent (2018) investigated, among others, who consider their job useless. Their results show ambiguity concerning gender. According to their result, women find their job around 0.02% more useful than men. This result is statistically and economically insignificant.

Students who score high on altruism are more concerned with the people around them and their well-being. As a result, the common rationale is that they care more than their work being meaningful and sustainable and thus are more willing to accept lower pay in exchange for a meaningful job.

We expect that participants who describe themselves as risk-averse will prefer the descriptive job offer that does not emphasize the social impact. This is because they know the exact task in the descriptive job offer, whereas the meaningful job or

environmentally sustainable company only describes the benefits to society. The final hypothesis is:

*H4: Female students and students who score higher on altruism and willingness to take risk are more willing to exchange pay for a meaningful job and sustainable company.*

In addition to the aforementioned hypotheses, we are interested in determining whether there is a correlation between the willingness to pay (WTP) for a meaningful job and a company's sustainability. We anticipate a positive correlation and are therefore interested in whether it depends on particular personal characteristics, such as gender or field of study.

## 3. Vignette Design

### 3.1 Variables

This study examines the relative importance of meaningful work and working for a sustainable company versus compensation in attracting employees. This vignette study uses Qualtrics to conduct a survey among university students. The experimental research is conducted on university students because they are comparable in many ways, yielding a more reliable result and making it easier to collect a representative sample within the time constraint. The primary advantage of conducting vignettes through surveys is the ability to ask questions of interest directly. However, it has several disadvantages. The following are our primary concerns.

First, obtaining enough observations to create a representative sample is challenging. Therefore, we aim for the largest sample size possible within the timeframe and focus only on university students.

Second, respondents may interpret the questions differently than intended. Additionally, a vignette may omit important variables. Therefore, the survey will be thoroughly beta-tested before being distributed to ensure that no essential factors are omitted and that the questions are correctly interpreted. The beta test is on the Erasmus University campus with randomly chosen individuals who answer the questions aloud. In total, we interviewed around 20 participants for the beta test.

Another disadvantage of vignette studies is that only the outcomes of hypothetical questions can be observed. Participants can believe they are answering truthfully when, in reality, they would make a different decision. The actual effects are not observable in this study.

Lastly, a limitation of surveys is that if the questionnaire is too long, attrition may occur, or they might not pay attention to the questions anymore. Therefore, the survey is as short as possible. There are only ten questions in total. Around 97% of the participants answered all the questions. The average duration of the survey is 110 seconds.

The entire survey is included in Appendix A. The variables of interest are listed and explained below.

The level of altruism is determined by responding to the following question, “How much do you agree with the following statement: “It is important to help the people nearby and care for their well-being?”. This question is earlier used by World Values Survey Organization (WVS). This is, according to our knowledge, the best single question for determining a person’s altruism level. The initial scale of the question ranges from 1 (strongly agree) to 5 (strongly disagree); however, based on our interpretation of the data, we have decided to invert the scale. In the subsequent sections, a higher number corresponds to a greater level of altruism.

To assess participants’ risk-aversion, we ask them to rate their willingness to take risks on a scale of 0 to 10. Dohmen et al., (2011) conducted research on the measurement and nature of individual risk attitudes. They asked several different questions in order to find the best measurement of a person’s risk preference. The best all-around predictor is the general risk question, according to Dohmen et al., (2011). Therefore, this is the question that we use in the survey.

Furthermore, we ask their age, gender, if they are a university student, what degree they are in, their field of study, and if they have a job.

We included two questions as the dependent variables. In the first question, we show the participants two job offers for a data entry assistant and ask which one they prefer. The job title is the same, but the job descriptions are different. The first job offer includes a job description that is overly descriptive and does not emphasize the meaning of the work. The second job offer only describes the added value to society and thus claims to be meaningful. The wage of the first job offer is set at €18 per hour. We chose €18 because the average starting salary 18 months after graduating from university was €18.02 gross per hour in 2019 (Nationale Alumni Enquete, 2019). We asked the participant at what hourly salary they would rather choose job offer two. See Figure 1 below. Although they are both for the same job, job offer 1 specifies the descriptive task while job offer 2 specifies the job’s meaning. It is good to note that with this survey, we try to capture the two extremes, the overly descriptive job offer (job offer 1) and the job offer that only shows the contribution to society (job offer 2).

Figure 1: Job offer descriptive and meaningful work



Question: Job offer 1 has a salary of €18 per hour. At what hourly salary would you rather choose offer 2?

For example, if you select €16, you would rather choose job offer 2 if it offers at least €16 per hour.

The second question is similar. However, this time it is about the company. In job offer one, we describe what the company does. In job offer two, we describe what the company stands for. We took both the company descriptions from Unilever's website<sup>1</sup>. We again ask the participants at what hourly salary they would rather choose job offer two. See Figure 2 below.

Figure 2: Job Offer Descriptive and Sustainable Company

Question: Job offer 1 has a salary of €18 per hour. At what hourly salary would you rather choose offer 2?

For example, if you select €16, you would rather choose job offer 2 if it offers at least €16 per hour.

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<sup>1</sup> <https://careers.unilever.com/netherlands> ; The description from question 1 is made up.

## Job offer 1

WE ARE  
LOOKING FOR A  
**DATA-ENTRY  
ASSISTANT**

### COMPANY DESCRIPTION:

We're a consumer goods company. Our products include food, ice cream, tea, coffee, breakfast cereal, cleaning agents, and more.

Salary: €18 p.h.

## Job offer 2

WE ARE  
LOOKING FOR A  
**DATA-ENTRY  
ASSISTANT**

### COMPANY DESCRIPTION:

We're driven by our purpose: to make sustainable living commonplace. We're working to create a fairer, socially inclusive world.

Salary: €X p.h.

## 4. Data and Methodology

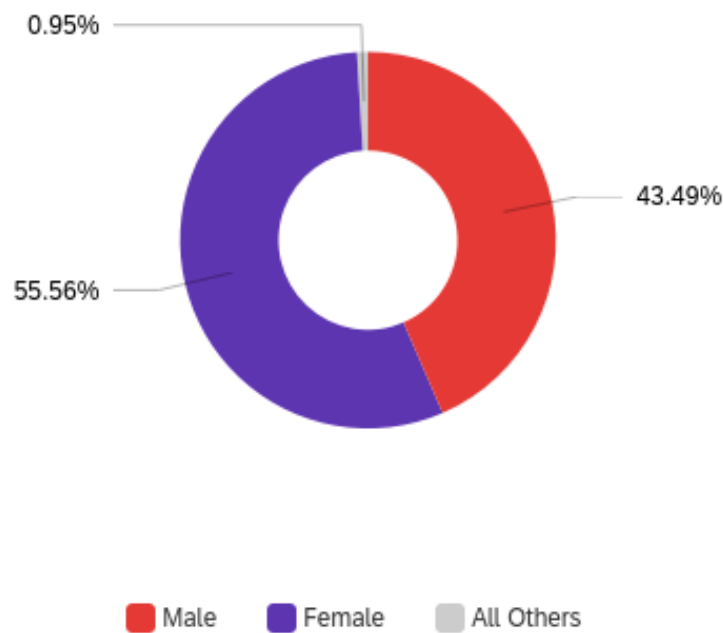
### 4.1 Summary Statistics

The information is gathered from university students. The data is collected through forwarding anonymous links to individuals and WhatsApp groups, as well as randomly asking students on campus at De Erasmus Universiteit Rotterdam and De Vrije Universiteit Amsterdam to fill it in. We collected 318 observations in total. However, due to attrition, 306 observations remain. The entire survey is available in Appendix A. The statistics for every variable are summarized in Appendix B. We attempted to make the data as representative as possible; nevertheless, there are some limitations.

This data set's male-to-female ratio is representative of Dutch university students. In 2021-2022, there were slightly more female university students in the Netherlands than male university students. Males constitute approximately 46% of the population on average and 43.5% of this dataset, as shown in Figure 3 (Centraal Bureau voor de Statistiek, 2022). We omitted non-binary participants and participants that preferred not to say, as there were only three in total, which is insufficient to draw a result.

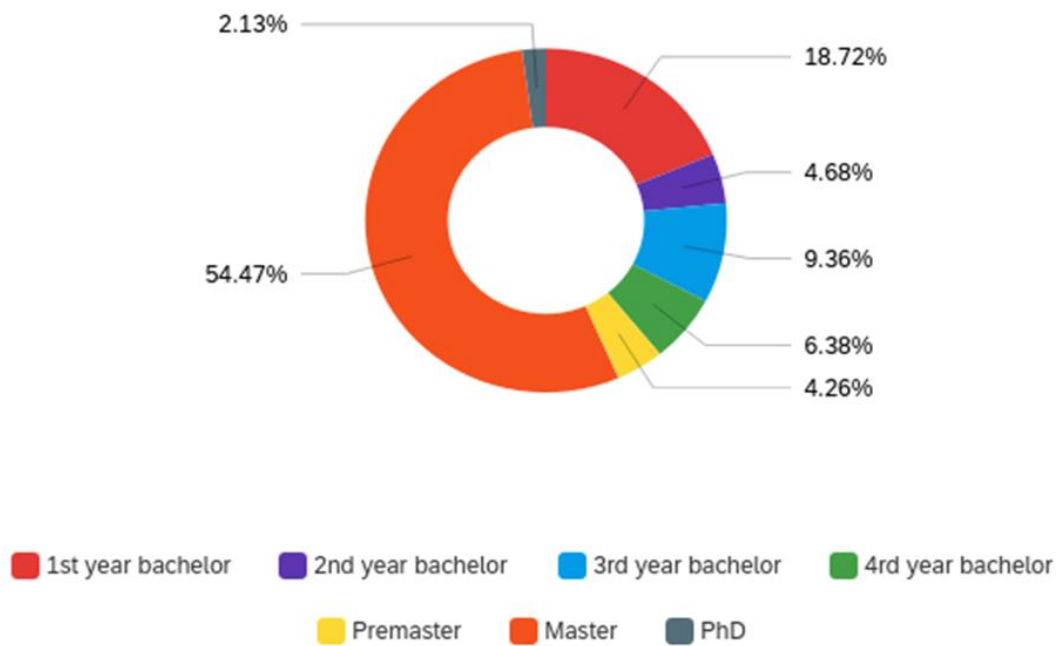


Figure 3: Gender



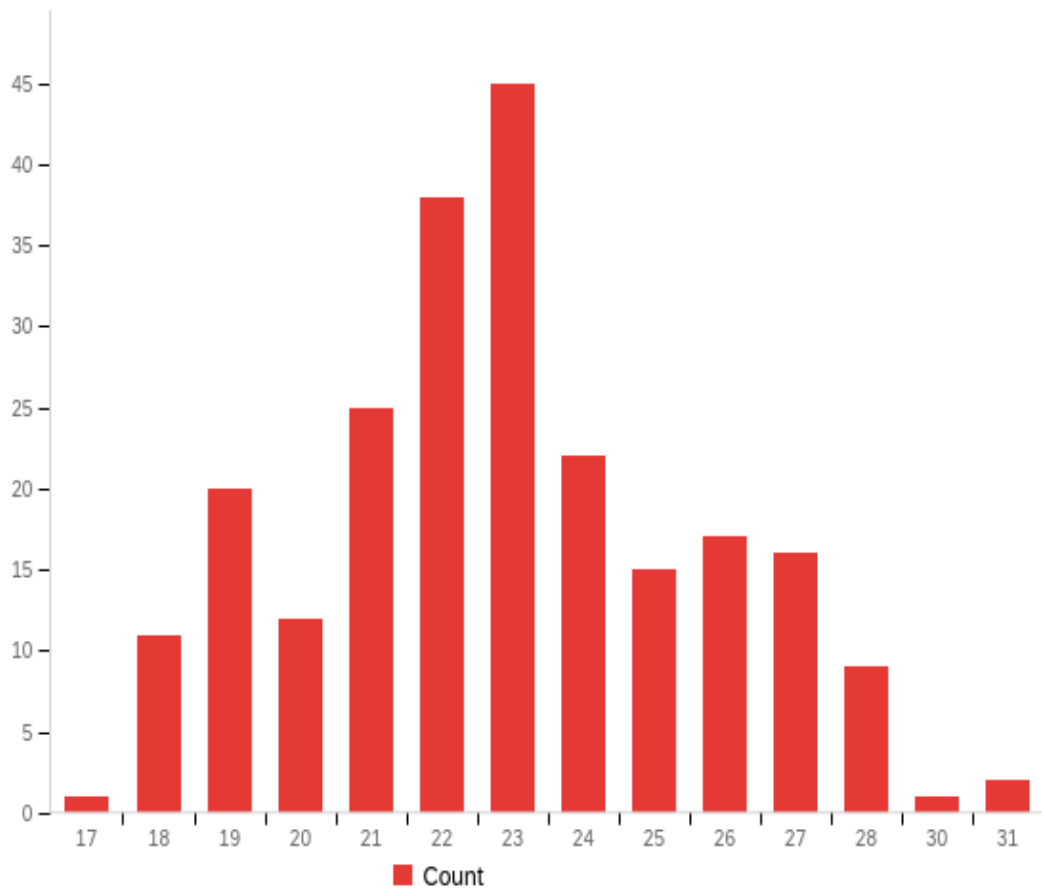
When it comes to degrees, around 36% of university students in the Netherlands are in their master's program. Figure 4 shows that in this data set, more than half of the students (45%) are in their master's program. This implies that the average in our dataset is more educated than the population we seek. This is something to keep in mind as we interpret the results. (Centraal Bureau voor de Statistiek, 2022)

Figure 4: Degree



In the Netherlands, the average age of a university student is 23 years. This is comparable to this data set, shown in Figure 5, where the average age is also 23 years (De Bie and Ton, 2022).

Figure 5: Age



As demonstrated in Figure 6, around 63% of the participants have a job next to their studies. In the Netherlands, this average is around 70% (Groen and Houtsma, 2022).

Figure 6: Job

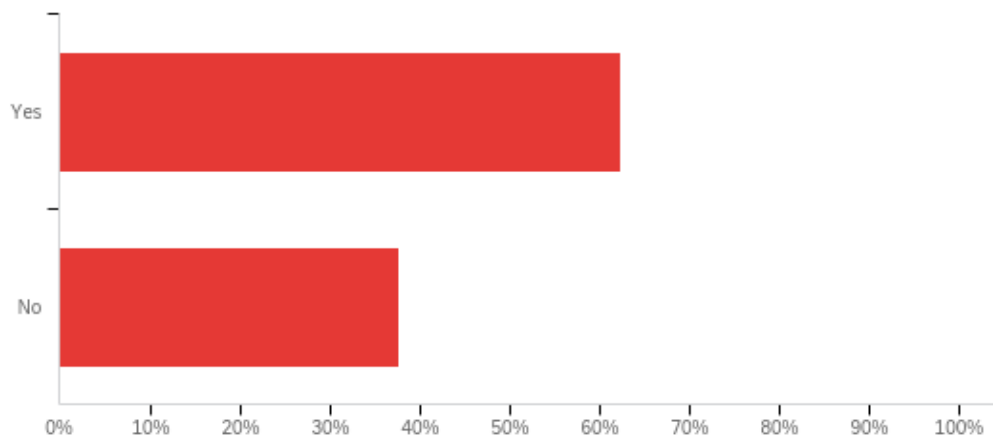
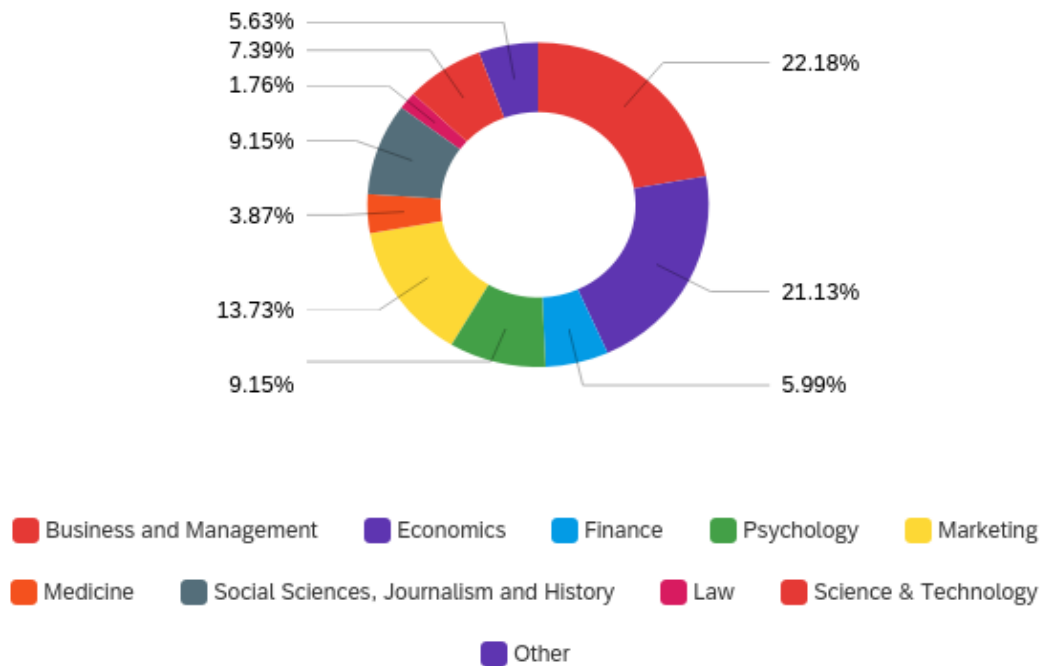


Figure 7 shows that most of the participants are Business and Management or Economics students. The studies that we expect to care least about meaning or sustainability compared to salary are economics, finance, and marketing students. Together they account for almost 41% of the sample.

Figure 7: Field of Study



Thereafter, we inquired about the participant’s risk preferences. We did this by asking how much risk they are willing to take, from 0 = very low to 10 = very high. The majority of respondents selected either six or seven (see Figure 8). Risk preferences can vary significantly between males and females, so it is intriguing to examine statistics for males and females separately (see Figure 9). Male students are more likely than female students to report a greater willingness to take risks, as depicted in Figure 9.

Figure 8: Risk-Preferences

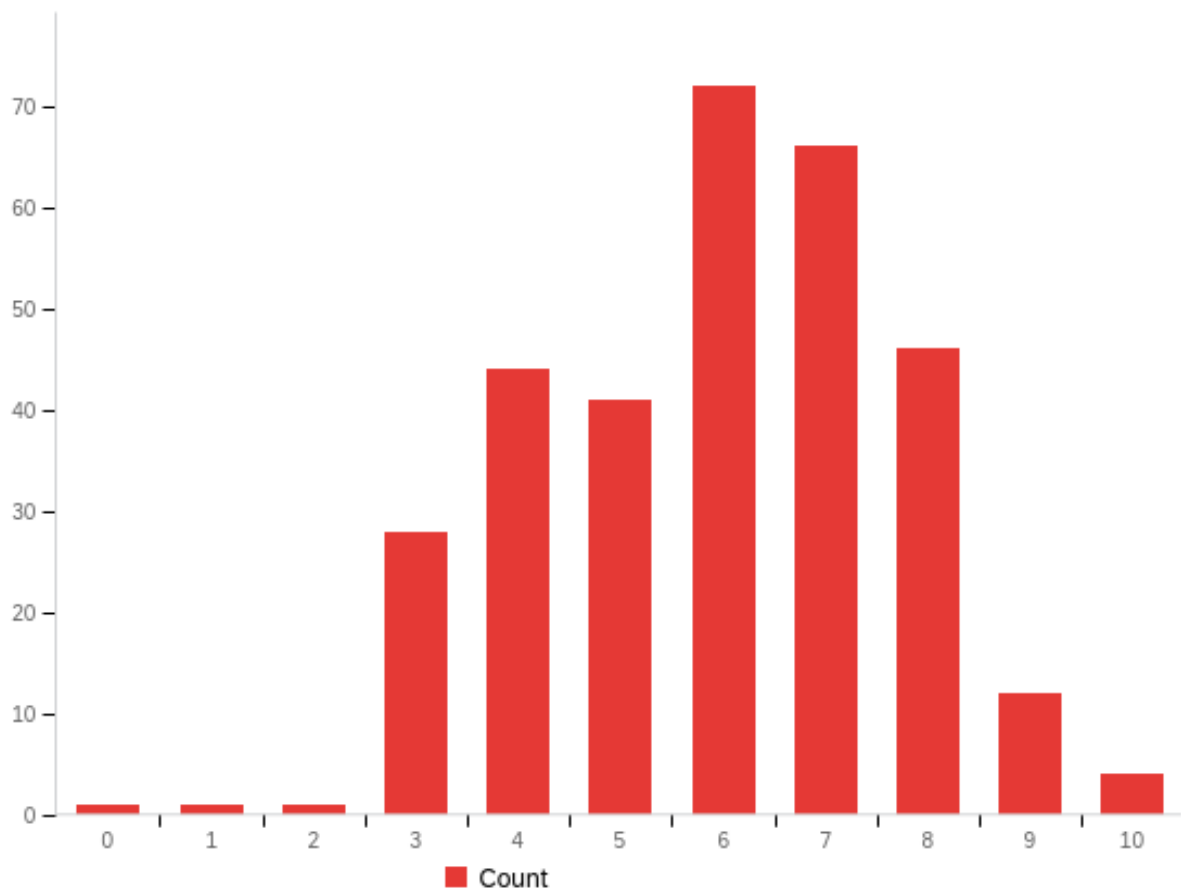
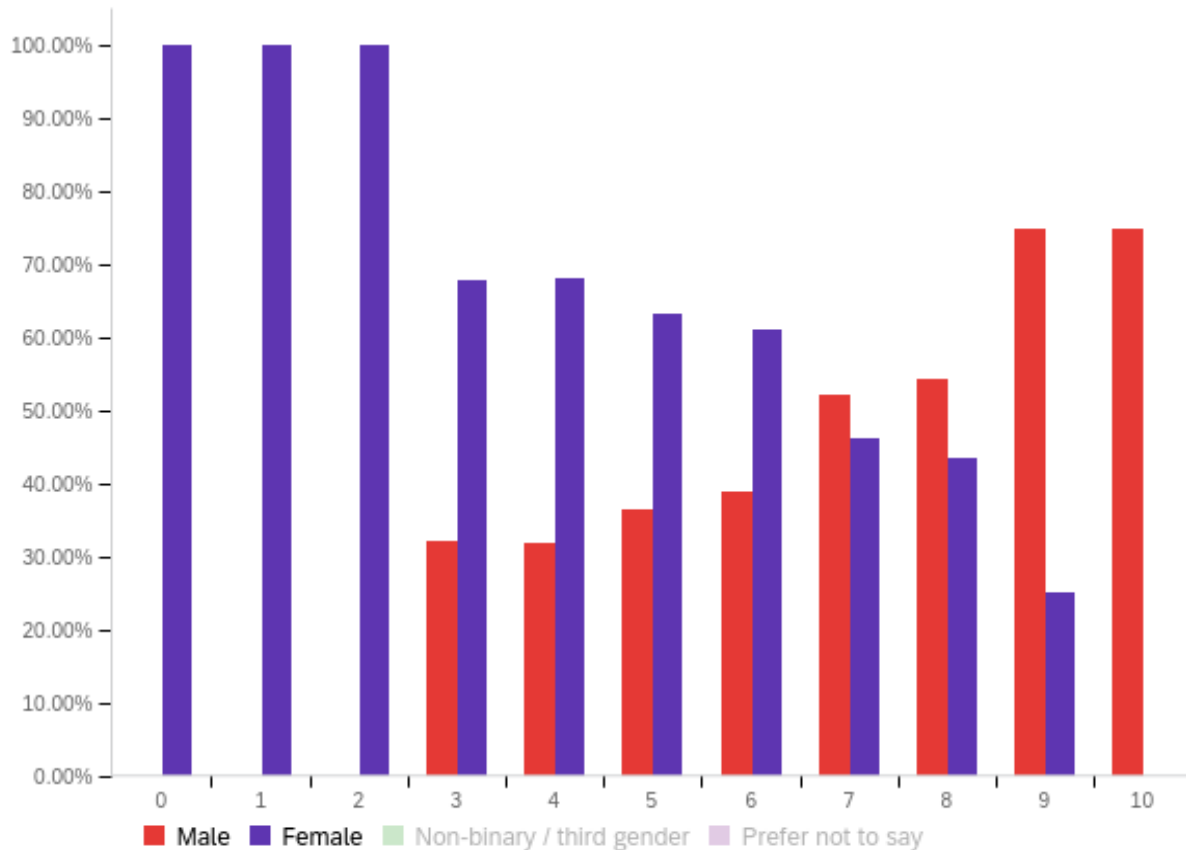


Figure 9: Risk-Preferences Percentage per Gender



To assess the level of altruism, we used the question: How much do you agree with the following statement: “It is important to help the people nearby and to care for their well-being”. Few participants were neutral or opposed to the statement, while the majority agreed (see Figure 10). The level of altruism can vary between males and females; therefore, it is also interesting to examine male and female statistics separately (see Figure 11). It is important to keep in mind that slightly more women answered the poll when considering Figure 11. In addition, it is helpful to compare Figure 11 with Figure 10 to examine the response rate. For example, Disagree and Strongly Disagree are rarely selected and are consequently unreliable for examining gender disparities. Still, we observe that women are marginally more altruistic than men, although the difference is not substantial.

Figure 10: Altruism

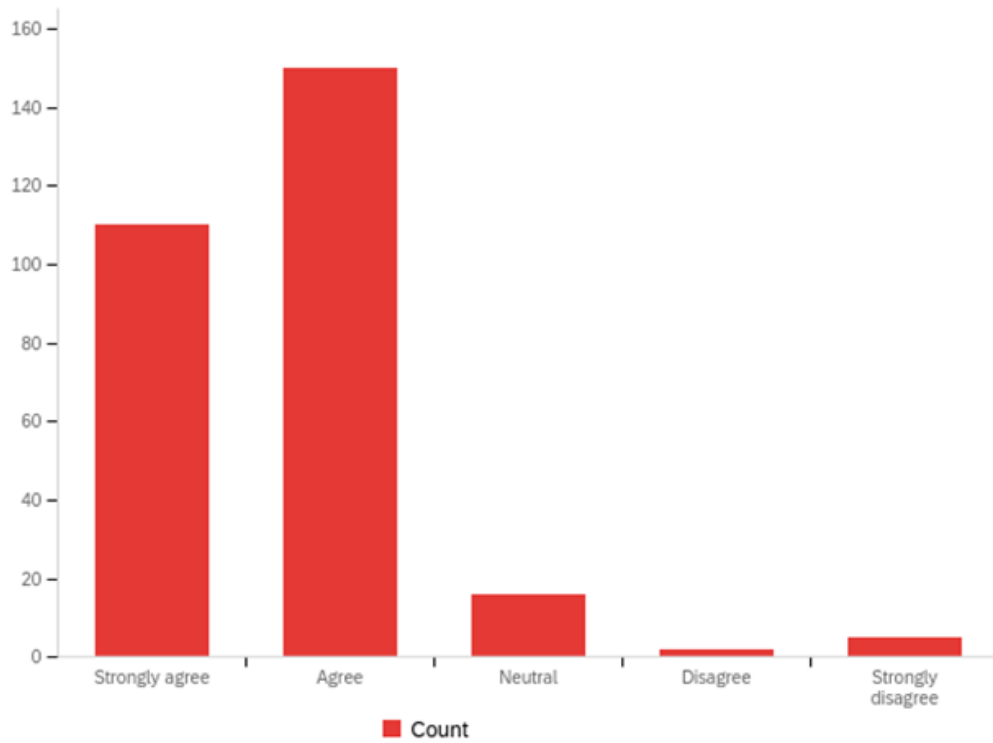
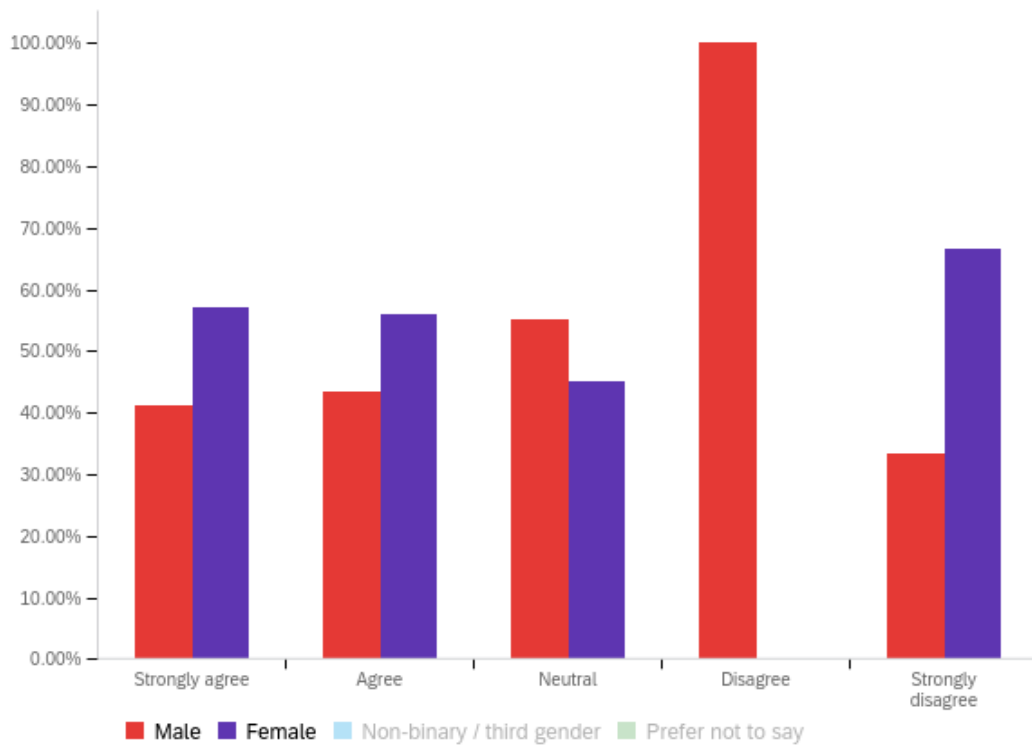
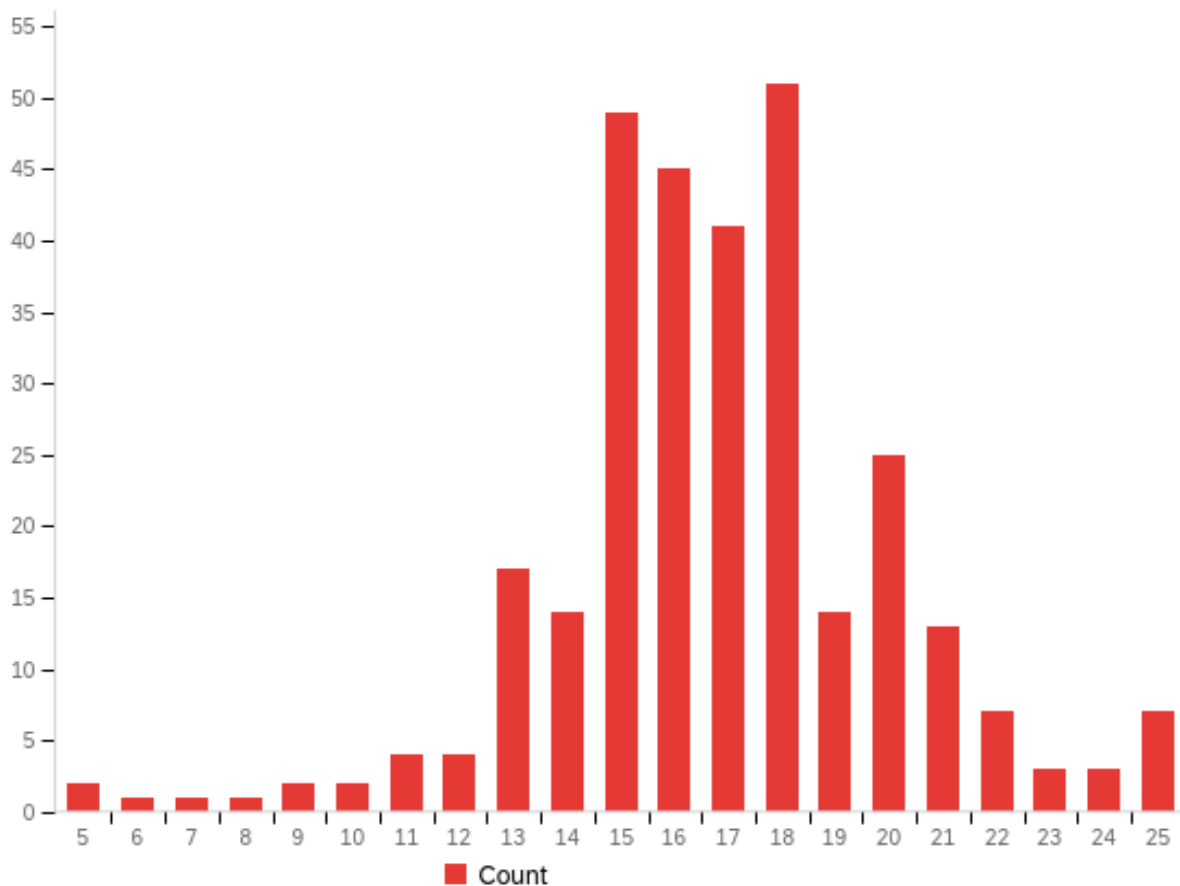


Figure 11: Altruism Percentage per Gender



Question nine determines the willingness to pay for a more meaningful job. Given that the overly descriptive job offer has a salary of 18 euros, at what salary are the participants willing to work at the more meaningful job? Figure 12 shows the results. The median is 18 euros, however, the histogram is skewed to the left. Only a few of the participants answered higher than 18. The mean is 16.94, with a standard deviation of 2.8.

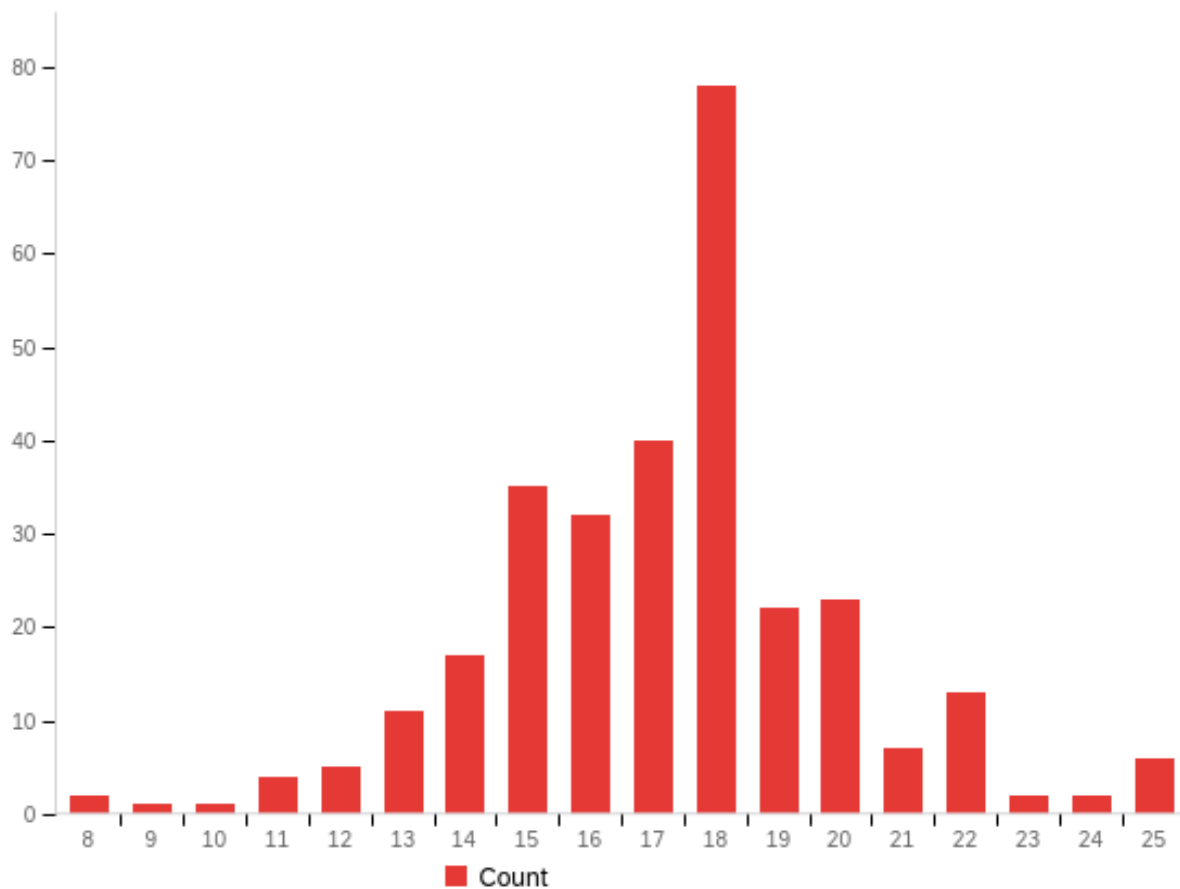
Figure 12: Salary Meaningful Job



The last question was to find out the willingness to pay to work for a more sustainable company. The descriptive company has a salary of 18 euros; at what salary are the participants willing to work at the company that advertises sustainability? When observing Figure 13, it is interesting to see that even more participants choose 18 euros, far out the most. However, the histogram is again slightly skewed to the left. The average is 17.2, with a standard deviation of 2.5



Figure 13: Salary Environmentally Sustainable Company



## 4.2 Regression

We carried out an OLS regression. There are numerous aspects of the research that merit consideration. First, it would be interesting to determine if there is a significant wage difference between a meaningful job offer (Mwage) and a descriptive job offer, which is set to 18 (see equation 5). Second, it would be interesting to see if the wages for a company that promotes sustainability differ (Swage) significantly from that of a company that describes what they do (see equation 6). Third, it is interesting to investigate the relationship between the willingness to pay for a meaningful job and a sustainable workplace (see equation 7). Finally, we are curious about the personality traits contributing to the disparities. This study focuses primarily on the following factors: gender, field of study, altruism score, and risk. The control variables are age, degree, and if they currently have a job.

$$Mwage_i = \beta_0 + \beta_1 * female_i + \beta_2 * study\ field_i + \beta_3 * altruism_i + \beta_4 * riskaverse_i + controlvariables_i + \varepsilon \quad (5)$$

$$Swage_i = \beta_0 + \beta_1 * female_i + \beta_2 * study\ field_i + \beta_3 * altruism_i + \beta_4 * riskaverse_i + controlvariables_i + \varepsilon \quad (6)$$

$$Mwage_i - Swage_i = \beta_0 + \beta_1 * female_i + \beta_2 * study\ field_i + \beta_3 * altruism_i + \beta_4 * riskaverse_i + controlvariables_i + \varepsilon \quad (7)$$

## 5 Results and Analysis

Linear regression is performed to assess the difference in income between a job that represents the meaning and a job that describes the actual task. The regression findings can be found in Table 1 below. The descriptive job offer has a salary of €18. The participants were asked for what salary they would choose the job offer that describes the meaning of the job. We conduct a two-sided t-test with a 5% alpha and can confirm that the mean is significantly different from 18. The findings suggest that, on average, university students are willing to accept a lower wage for a job offer that describes the positive impact on society. The variable for age is standardized. A male with an average age (23) that scores zero on all the other independent variables would be indifferent between the two job offers if job offer two would have a salary of 16.95 euro.

Students with a higher risk-taking score desire a higher minimum wage to accept the meaningful job offer. The more risk-averse students prefer the meaningful job offer. Considering the extremes, a risk-averse individual with a score of 0 would prefer the meaningful job offer with a difference of 2.8 euros over a risk-seeking individual with a score of 10 (approximately 16.5% increase). With a p-value lower than 1%, this result is statistically significant. We did not anticipate this outcome, as job offer 1 specifies the exact requirements for the position. Therefore, we anticipated that it would be the option with the lowest level of risk. There are multiple potential explanations. For instance, the result may be due to the fact that meaningful work entails less reputational risk. The findings suggest that reputational concerns have a greater impact than job-specific knowledge. Moreover, the variable risk may be correlated with other variables, such as gender and altruism.

Participants who scored higher on altruism were willing to accept a lower income in exchange for a meaningful job. This is a significant result both economically and statistically. The majority of participants strongly agreed or agreed with the statement; one step up on the five-step Likert scale reduces the pay by 1.55 euros, with a p-value of less than 1%. Students who place a higher value on caring for their peers and their well-being also place a higher value on having a meaningful profession.

Women, on average, require a higher pay for a meaningful job offer compared to men, by 0.68 euros. This is statistically significant by a p-value lower than 5%. We did not expect this result beforehand. However, the results are comparable to the results of Bauman and Rose (2011). They found that women are less likely to donate than other students. Bauman and Rose's results indicate that women are less generous. There are several possible explanations. First, it could be that female students are more responsible with their money and, therefore, less willing to forgo compensation. Another reason may be that female students are doing other things to help society, such as volunteering, which makes them feel like they are already doing enough to help society. This is the same reasoning as the results of Buurman, Dur and van den Bossche (2009). Their findings suggest that many public sector employees feel that they already donate a lot to the society by exerting effort on the job for relatively little pay and, therefore, are less willing to make any further contributions. The same reasoning can be applied to our results as well. Lastly, female students may know that they have a disadvantage in the labor market and, therefore less likely to pass up compensation.

In comparison to other students, students who study economics, finance, or marketing demand a higher wage for a meaningful job offer. This is something we expected to occur since jobs in those areas are known to be less meaningful (Dur and van Lent, 2018). Students who are less concerned with finding meaningful work may self-select into studies that may not lead to meaningful jobs. The results of all the study fields separately can be found in Appendix C. The control variables, education, age, and job, are all insignificant.

Looking at Table 1, in the last column: "Swage", you can find the regression results for the salary required to be willing to accept the job at the sustainable company compared to the descriptive description of the company. We again conduct a two-sided t-test with a 5% alpha and can confirm that the mean is significantly different from 18. The results are very similar to the previous section. There are only a couple of noteworthy differences. Firstly, the coefficient for altruism is smaller compared to the previous question. However, the coefficient is still negative and economically and statistically significant. One step up on the 5-point Likert scale will decrease the salary required to be willing to accept the job at the sustainable company by 0.93 euros. On average, women require a 0.22 euros higher salary for the offer at a sustainable company.

However, this result is statistically insignificant. The average is slightly higher than for the meaningful vacancy. However, this difference is not statistically significant (p-value of 0.16).

Table 1: Regression Results

<b>Variables</b>	<b>Mwage</b>	<b>Swage</b>
<i>Risk</i>	0.28*** (0.09)	0.27*** (0.08)
<i>Altruism</i>	-1.55*** (0.22)	-0.93** (0.20)
<i>Female</i>	0.68** (0.28)	0.22 (0.26)
<i>Economics, Finance or Marketing</i>	0.95*** (0.30)	0.97*** (0.28)
<i>Education</i>	0.14* (0.08)	0.12 (0.08)
<i>Age</i>	0.07 (0.06)	0.10* (0.05)
<i>Job</i>	0.37 (0.29)	0.12 (0.27)
<i>Constant</i>	16.95*** (1.02)	16.51*** (0.95)
<i>Observations</i>	306	306
<i>R squared</i>	0.25	0.18

*Note: Mwage is the wage for meaningful job, Swage is the wage at the sustainable company. Risk measures willingness to take risk, which runs from very low (0) to very high (10). Altruism is measured on a Likert-scale from 1 to 5. Age is mean standardized. Education ranges from 1: First-year undergraduate to 7: PhD. Standard errors in parentheses. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01*

The variables gender and economics, finance, or marketing could be correlated with risk preferences and altruism. For example, it could be that women score higher on altruism, and hence the effect of gender gets explained through altruism. Therefore, it

is interesting to look at the results per individual variable (see Tables 2 and 3 below). We find, contrary to Table 1, that gender has no economic or statistically significant results in Tables 2 and 3. We do see that the coefficient of economics, finance, or marketing is even higher than in Table 1. This could indicate that the choice of a field of study is related to altruism or risk preferences. The coefficients of risk do not vary significantly from Table 1. The altruism coefficients, on the other hand, differ from Table 1. They are considerably lower. This suggests a correlation between the field of study and altruism.

Table 2: Regression Results per Variable for Meaningful Work

<b>Variables</b>	<b>Mwage</b>	<b>Mwage</b>	<b>Mwage</b>	<b>Mwage</b>
<i>Risk</i>	0.27*** (0.09)			
<i>Altruism</i>		-1.69*** (0.22)		
<i>Female</i>			0.48 (0.32)	
<i>Economics, Finance or Marketing</i>				1.27*** (0.32)
<i>Constant</i>	15.36*** (0.58)	20.90*** (0.54)	16.72*** (0.24)	16.47*** (0.20)
<i>Observations</i>	306	306	306	306
<i>R squared</i>	0.03	0.16	0.01	0.05

Note: Mwage is the wage for meaningful job. Risk measures willingness to take risk, which runs from very low (0) to very high (10). Altruism is measured on a Likert-scale from 1 to 5. Age is mean standardized. Education ranges from 1: First-year undergraduate to 7: PhD. Standard errors in parentheses. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 3: Regression Results per Variable for Sustainable Company

<b>Variables</b>	<b>Swage</b>	<b>Swage</b>	<b>Swage</b>	<b>Swage</b>
<i>Risk</i>	0.26*** (0.08)			
<i>Altruism</i>		-1.08*** (0.21)		
<i>Female</i>			-0.02 (0.29)	
<i>Economics, Finance or Marketing</i>				1.25*** (0.28)
<i>Constant</i>	15.61*** (0.51)	19.67*** (0.51)	17.18*** (0.22)	16.67*** (0.18)
<i>Observations</i>	306	306	306	306
<i>R squared</i>	0.03	0.08	0.00	0.06

Note: Swage is the wage at the sustainable company. Risk measures willingness to take risk, which runs from very low (0) to very high (10). Altruism is measured on a Likert-scale from 1 to 5. Age is mean standardized. Education ranges from 1: First-year undergraduate to 7: PhD. Standard errors in parentheses. \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

We are also interested in looking at the correlation between the willingness to pay for a meaningful job and a sustainable workplace. On average, the difference in willingness to pay is -0.19. This means that in our model, the average student's willingness to pay for a meaningful job is higher (by 19 cents) than the willingness to pay to work for the sustainable workplace. However, this difference is not statistically significant.

There is a strong correlation between the willingness to pay for meaningful work and the sustainability of a business. A one euro wage increase for meaningful work will result in an average sustainability wage increase of 0.69 euros. By examining the

results of regression 7, which are summarized in Table 4 below, we can better comprehend the differences between the two salaries.

There is a statistically and economically significant negative coefficient for altruism. This would imply that participants with one-point higher altruism are ceteris paribus 1.03 euros more willing to pay for meaning than sustainability. In addition, it appears that women are more willing to pay for sustainability than men. Furthermore, it is noteworthy that the differences in WTP between the wages for a meaningful job and a sustainable company are minimal and insignificant for risk preferences study fields.

Table 4: Regression Results Differences in WTP

<b>Variables</b>	<b>Difference in WTP (Mwage – Swage)</b>
<i>Risk</i>	-0.03 (0.05)
<i>Altruism</i>	-0.62*** (0.20)
<i>Female</i>	0.55** (0.28)
<i>Economics, Finance or Marketing</i>	-0.03 (0.28)
<i>Education</i>	0.01 (0.08)
<i>Age</i>	-0.03 (0.05)
<i>Job</i>	0.27 (0.28)
<i>Constant</i>	0.34 (0.97)
<i>Observations</i>	306
<i>R squared</i>	0.04

Note: Mwage is the wage for meaningful job, Swage is the wage at the sustainable company. Risk measures willingness to take risk, which runs from very low (0) to very



high (10). Altruism is measured on a Likert-scale from 1 to 5. Age is mean standardized. Education ranges from 1: First-year undergraduate to 7: PhD. Standard errors in parentheses. \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

## 6 Conclusion and Recommendations

The purpose of this study was to compare the importance of a meaningful job or a sustainable workplace to compensation among university students. According to Lea Cassar and Stephan Meier (2018), work represents much more than “just” earning a living; for many individuals, it is a source of meaning. Therefore, job seekers are not only concerned with whether a job is available for them but also with finding a job that contributes to society (NOS Nieuws, 2021). Companies are aware of this, and in order to attract new employees, they emphasize the social impact applicants can have on their job applications. Younger individuals and those with a higher level of education are more likely to be concerned about the consequences of climate change (Kloosterman et al., 2021). According to Krueger, Metzger, and Wu (2020), employees in sustainable industries in Sweden earn approximately 9 percent less. They argue that the Sustainability Wage Gap exists because workers, primarily young and highly educated individuals, prioritize environmental sustainability and are willing to work for less pay in sustainable businesses.

This paper investigates whether Dutch university students are willing to accept a lower salary in a job offer that emphasizes the social impact or sustainability. We conducted a vignette study with Dutch university students to answer this question.

The results indicate that, on average, students are willing to accept less pay for a job offer with greater meaning or with a sustainable company. However, the results are highly dependent on the individual's characteristics and field of study. Altruistic and risk-averse students are significantly more likely to accept lower pay in exchange for a meaningful job and a sustainable workplace. In addition, economics, finance, and marketing students appear to be less concerned with the social impact and sustainability of their workplaces. However, the median for meaningful jobs and sustainable workplaces is the same as for “descriptive jobs.” Consequently, a substantial number of students do not care about the workplace's social impact or sustainability. A sizeable proportion even demanded a higher salary. If many job vacancies emphasize social impact and sustainability, it is possible that the marginal worker does not care and, therefore, will not accept a lower wage.

We observed from Figures 12 and 13 that the median participant response to both questions was 18. This indicates that everyone who responded 18 is indifferent between the two jobs. They are unwilling to accept lower pay in exchange for a more meaningful or sustainable job or workplace. However, when the marginal worker does not care about a meaningful job or a sustainable workplace, companies are no longer able to offer lower pay for it. Our results suggest that the majority of Dutch university students prefer jobs that state their social impact and sustainability goals; however, a significant number of students do not prefer job postings that emphasize their social impact. For businesses, it is essential to consider the marginal worker's willingness to pay for a meaningful job or a sustainable workplace. In addition, businesses should consider the credibility of such claims and the "type" of employees they wish to recruit.

It is crucial to remember that the focus of this study is on a student's beliefs when evaluating job openings and not on whether the job is truly meaningful or whether the company cares about sustainability. It is questionable whether the credibility of the job advertisement affects the outcomes. For instance, some "types" of students may not believe the stated sustainability objectives in the job offer. This was discovered during the beta testing phase. Some participants in the beta test indicated that they would be indifferent to the job advertisement because they viewed it as cheap talk.

There is a strong correlation between the willingness to pay for a job that emphasizes impact and the willingness to pay for a job that emphasizes sustainability goals. However, we do see that it depends on gender and level of altruism. In particular, females care more about sustainability than males, and participants with higher altruism scores care more about having an impact in a job offer than about sustainability. It is not unusual that women care more about sustainability than men. Zelezny, Chua, and Aldrich (2000) investigated gender differences in environmental attitudes and behaviors. Women have more environmentally conscious attitudes and behaviors than men, according to one of their findings. This is consistent with our findings. Furthermore, it makes sense that participants with higher altruism scores were also more willing to pay for meaningful work. The question we asked about altruism was about caring for others, which is closely related to the importance of having an impact. It would be fascinating for future research to delve deeper into the underlying causes of this phenomenon.

This study is conducted on university students. Cotofan, Cassar, Dur, and Meier (2021) provide evidence regarding the development and evolution of job attribute preferences. They demonstrate that booms and recessions have lasting effects on employment preferences. Booms can cause workers to place a higher value on meaning and a lower value on income for the duration of their lives. The opposite is true for recessions. This suggests that our results will vary significantly across generations and ages.

This study has a number of limitations. A drawback of conducting a vignette study is that only the outcomes of hypothetical questions can be observed. It is possible for respondents to believe they are providing an honest response when, in reality, they would make a different choice. In this study, the actual effects are not observable. In addition, due to the limited time frame, this study focuses solely on students.

Future studies could conduct a field or natural experiment to better comprehend the practical implications of these results. Furthermore, it would be interesting to investigate the differences between generations, ages, and educational levels across the entire Dutch population. Lastly, it would be interesting to determine if salaries for meaningful work or sustainable companies are in fact lower.

## 7 Appendices

### 7.1 Appendix A Questionnaire

The vignette questionnaire can be found below and online via this [link](#).

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Q1 Age: What is your age?

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Q2 Female: What is your gender

- Male (0)
  - Female (1)
  - Non-binary / third gender (2)
  - Prefer not to say (3)
- 

Q3 Student: Are you an university student?

- Yes (1)
  - No (2)
-

Q4 Degree: What degree are you in?

- 1st year bachelor (1)
  - 2nd year bachelor (2)
  - 3rd year bachelor (3)
  - 4rd year bachelor (4)
  - Premaster (5)
  - Master (6)
  - PhD (7)
  - Other (8)
-

Q5 Study: What field is your study closest related to?

- Business and Management (1)
  - Economics (2)
  - Finance (3)
  - Psychology (4)
  - Marketing (5)
  - Medicine (6)
  - Social Sciences, Journalism and History (7)
  - Law (8)
  - Science & Technology (9)
  - Other (10)
- 

Q6 Job: Do you currently have a job?

- Yes (1)
  - No (2)
- 

Risk averse What is your willingness to take risks in general? <br>(0=very low, 10 = very high<br>

0 1 2 3 4 5 6 7 8 9 10

What is your willingness to take risks in general?



Q7 Altruism: How much do you agree with the following statement: "It is important to help the people nearby and to care for their well-being"

- Strongly agree (1)
- Agree (2)
- Neutral (3)
- Disagree (4)
- Strongly disagree (5)



## Job offer 1

**WE ARE  
LOOKING FOR  
DATA-ENTRY  
ASSISTANT**

---

**JOB DESCRIPTION:**

Transferring data from paper formats into computer files or database systems.

Salary: €18 p.h.

## Job offer 2

**WE ARE  
LOOKING FOR  
DATA -ENTRY  
ASSISTANT**

---

**JOB DESCRIPTION:**

Be part of ground breaking research that will contribute greatly to the research to cure cancer.

Salary: €18 p.h.

Job offer 1 has a salary of €18 per hour.

At what hourly salary would you rather choose offer 2?

*For example, if you select €16, you would rather choose job offer 2 if it offers at least €16 per hour.*

5 7 9 11 13 15 17 19 21 23 25

Salary at place X	
-------------------	--

## Job offer 1

**WE ARE  
LOOKING FOR  
DATA-ENTRY  
ASSISTANT**

---

**JOB DESCRIPTION:**

Transferring data from paper formats into computer files or database systems.

Salary: €18 p.h.

## Job offer 2

**WE ARE  
LOOKING FOR  
DATA-ENTRY  
ASSISTANT**

---

**JOB DESCRIPTION:**

Be part of ground breaking research that will contribute greatly to the research to cure cancer.

Salary: €X p.h.

Job offer 1 has a salary of €18 per hour.


At what hourly salary would you rather choose offer 2?

*For example, if you select €16, you would rather choose job offer 2 if it offers at least €16 per hour.*

**Beware, the description has changed.**

5 7 9 11 13 15 17 19 21 23 25

---

Salary at place X	
-------------------	--

End of Block: Dependent variable

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## 7.2 Appendix B Variables Statistics

Table 5: Variables Statistics

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>
<i>Age</i>	23.10	2.87
<i>Female</i>	0.57	0.51
<i>Degree</i>	4.69	1.97
<i>Field of Study</i>	4.12	2.84
<i>Job</i>	1.39	0.49
<i>Risk-Preferences</i>	5.96	1.73
<i>Altruism</i>	1.76	0.76
<i>Salary Meaningful Job</i>	16.94	3.09
<i>Salary Environmentally Sustainable Company</i>	17.35	7.33

Note: For code values, see Appendix A.

## 7.3 Appendix C Results All Study Fields

Table 6: Results With All Study Fields

<i>Variables</i>	<i>Mwage</i>	<i>Mwage</i>	<i>Swage</i>	<i>Swage</i>
<i>Bus</i>	0.03	-0.54	-0.69	-1.07
	(0.77)	(0.71)	(0.69)	(0.66)
<i>Econstudent</i>	0.68	0.15	0.25	-0.14
	(0.78)	(0.72)	(0.70)	(0.67)
<i>Fin</i>	1.48	0.53	1.72**	0.97
	(0.95)	(0.89)	(0.85)	(0.82)
<i>Mark</i>	1.07	0.38	0.56	0.17
	(0.81)	(0.75)	(0.72)	(0.70)
<i>Psych</i>	-1.10	-0.63	-1.07	-0.62

	(0.86)	(0.80)	(0.77)	(0.75)
<i>Med</i>	-2.20**	-2.32**	-1.73*	-1.90*
	(1.11)	(1.05)	(0.99)	(0.97)
<i>Soc</i>	0.17	-0.50	-0.39	-0.78
	(0.85)	(0.78)	(0.76)	(0.72)
<i>Law</i>	-2.40*	-2.57**	-1.53	-1.45
	(1.40)	(1.28)	(1.25)	(1.19)
<i>Science</i>	-0.48	-0.60	-0.24	-0.34
	(0.91)	(0.85)	(0.81)	(0.80)
<i>Centered_Age</i>		0.06		0.08
		(0.06)		(0.05)
<i>Female</i>		0.76**		0.20
		(0.30)		(0.28)
<i>Altruism</i>		-1.54***		-0.95***
		(0.22)		(0.21)
<i>Risk</i>		0.26***		0.25***
		(0.09)		(0.08)
<i>Education</i>		0.15*		0.15*
		(0.09)		(0.08)
<i>Job</i>		0.32		0.09
		(0.30)		(0.28)
<i>Constant</i>	16.80***	17.69***	17.33***	17.43***
	(0.70)	(1.29)	(0.63)	(1.20)
<i>Observations</i>	310	306	310	306
<i>R-squared</i>	0.09	0.27	0.09	0.21

Note: *Mwage* is the wage for meaningful job, *Swage* is the wage at the sustainable company. *Risk-averse* is measured from 0=very low to 10 = very high. *Altruism* is measured on a Likert-scale from 1 to 5. *Age* is mean standardized. *Education* ranges

from 1: First-year undergraduate to 7: PhD. Standard errors in parentheses. \* $p < 0.1$ ;  
\*\* $p < 0.05$ ; \*\*\* $p < 0.01$

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