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ALIGNING MISSION PREFERENCES: DOES SELF-SELECTION FOSTER PERFORMANCE IN WORKING GROUPS?

Caroline Baethge · Marina Fiedler

The following study investigates whether or not self-selection into organizations fosters performance in working groups by aligning mission preferences. The experimental design that allows us to study the causal relationship between self-selection, incentives and performance is based on a weak-link game devised by van Huyck et al. (1990). This is the optimal tool to illustrate the coordination and motivation problem within both public and private firms because it resembles the effort and performance process within working groups. The literature on the sorting effect of incentives focuses almost exclusively on the choice of certain compensation schemes. However, several studies on work attitudes indicate that employees not only differ concerning their preference for extrinsic or intrinsic rewards, but that other factors such as the organizational context also have an impact on the matching of employees and organizations and therefore the effectiveness of incentives. The interesting question now is whether or not self-selection does indeed align mission preferences and is the key to an employee's performance. We propose that neither the performance in working groups nor the effectiveness of a financial incentive are directly affected by self-selection but crucially depend on congruent values between employees and organizations.

Keywords

self-selection · mission preferences · effectiveness of financial incentives · experiment

Highlights

- We study the (moderating) role of self-selection on employees' mission preferences and performance in working-groups.
- Self-selection directly affects the individual attitudes of employees and indirectly impacts on organizational outcomes.
- Organizations *do* attract subjects with congruent values, that is, higher mission preferences.
- Additionally, the influence of monetary incentives strongly depends on self-selection and individual mission preferences.

1. Introduction

The design and use of financial and non-financial incentives are radically different in the private and public sector, depending not only on the job but also on the characteristics of an organization. In the public sector, for example, financial incentives and particularly performance related pay measures are relatively scarce. This is not only due to the fact that most federal institutions are facing tight budget constraints but also reflects the difficulty of measuring or even defining output in the public sector. Furthermore, several institutional differences between public and private sector organizations make it impossible to simply apply private sector incentive systems to the public sector in order to improve public sector efficiency and performance. Compared to private firms, public organizations are challenged by their multidimensional structure which includes adhering to several principles, bearing multiple tasks and facing the difficulty of measuring or even defining output (Boyne 2002; Burgess and Ratto 2003; Dixit 2002). These differences imply that the design of optimal incentives must be carefully adjusted and ultimately depends on the type of organization and its characteristics in order to successfully increase individual and organizational performance (Burgess and Ratto 2003). Furthermore, studies on worker preferences report that private and public sector employees differ in their preferences for extrinsic rewards. They suggest that financial incentives do not necessarily improve public managers' performance (e.g. Alonso and Lewis 2001; Rainey 1983). This lays the ground for the assumption that individual attitudes play an important role in determining the successful implementation of (financial) incentives. The literature suggests that in a mission-oriented public sector in particular, non-pecuniary aspects must be considered when seeking to improve public sector performance (Wright 2007).

We expand upon the existing literature on financial and non-financial incentives by experimentally investigating whether or not self-selection into private and public organizations affects individual mission preferences and supports organizations in improving individual effort and henceforth organizational performance. Our research vehicle is a weak-link game based on Brandts and Cooper (2006) with both public and private organization scenarios. This not only allows us to observe the influence of self-selection and individual attitudes on the effectiveness of financial incentives but also to comprehend its impact on individual and organizational performance. Building on previous studies on the weak-link game (e.g. Brandts and Cooper 2006, 2007; van Huyck et al. 1990) we suggest that financial incentives positively influence employees' efforts when they are faced with a coordination

failure within their organization.[1] However, the effectiveness of a bonus might depend on individual preferences. We propose that both the attraction to an organization's mission, as well as the preference for working in a specific organization, increase individual worker efforts and help to boost the organizational outcome.

Our paper seeks to make two contributions. Firstly, we contribute to the literature on the matching of employees and organizations by analyzing whether or not self-selection into different organizations comes with differences in employee attitudes, namely mission and employment preferences. Secondly, by experimentally incorporating actual self-selection into different organizations, this setting allows us to investigate if self-selection based on individual preferences for a specific organization actually fosters subjects' efforts and influences organizational performance. Additionally, we assess the influence of self-selection on the effectiveness of a bonus payment which could differ depending on a subject's attitudes. To the best of our knowledge, there are no studies that experimentally investigate the causal link between self-selection, work preferences and incentives. The results have implications for the design of institutions in combining both pecuniary and non-pecuniary aspects of motivation in order to improve the performance of agents and organizations.

2. Financial and Non-Financial Incentives

2.1. Incentive Theory and Organizational Differences

Drawn from the general theory of incentives, the basic assumption for the motivation of an agent is that he or she gets utility from the salary he or she is paid. Moreover, when exerting actual effort, the agent gets disutility, i.e. bears some cost for working (Gibbons 1998). However, as Dixit (2002) notes there are several aspects that could affect an agent's utility, such as the task at hand and the organizational goals. If such factors impact the agent's utility then the principal could in turn offer him a smaller bonus payment and still get the same level of effort. But is this applicable to all organizations?

As Dixit (2002) states, it is more likely for the public sector to increase an agent's utility by focusing on non-financial incentives because in contrast to the private sector, it is generally

[1] Other studies on the weak-link game have focused on determinants of coordination such as group size (Knez and Camerer 1994; Weber et al. 2001) and repetition (Berninghaus and Ehrhart 1998), communication (Blume and Ortmann 2007; Riechmann and Weimann 2008), intra- or intergroup competition (Bornstein et al. 2002; Fatas et al. 2006; Riechmann and Weimann 2008), advice (Chaudhuri et al. 2009), leadership (Cartwright et al. 2013; Weber et al. 2001), virtual observability (Weber et al. 2004) or participation fees (Cachon and Camerer 1996). Devetag and Ortmann (2007) reviewed several order-statistic games to detect the determinants of possible coordination failure.

a more mission-oriented environment. However, neither the sector differences concerning public organizations' multidimensionality, nor the mission orientation apply equally to all public institutions. There are also mixed organizational forms such as non-public-non-profit organizations, for-profit organizations with a mission orientation, and semi-public, for-profit companies. Given these differences, it is not appropriate to simply implement private sector solutions to the public sector or vice versa. In general, incentives can "have beneficial effects in some dimensions or for some principals, but generate dysfunctional reactions in other dimensions" (Burgess and Ratto 2003 p. 292).

To achieve a more efficient organizational outcome, we must understand the drivers of work motivation, which in turn could lead to increased performance of both employees and organizations as a whole (Boardman and Sundquist 2009). We therefore explore both monetary and non-monetary factors that could affect individual performance and hence the organizational outcomes and highlight the potentially different influences to be found in both public and private organizations.

2.2. Financial Incentives and Organizational Differences

To date very few studies have empirically investigated variable financial incentives in the public sector in this field. These studies mostly find a positive influence of teachers' incentives on students' performance (Atkinson et al. 2009; Contreras and Rau 2012; Duflo et al. 2012; Lavy 2002, 2009; Muralidharan and Sundararaman 2009) or on fine collections in a tax authority (Kahn et al. 2001). Others do not find a significant influence of teachers' financial incentives on students' test scores (Fryer 2013; Goodman and Turner 2013) or only find a positive impact on short-term students' outcome (Glewwe et al. 2003). As Contreras and Rau (2012) point out, the effective use of incentives depends on the region in question because studies from developing countries report a mostly positive influence whereas studies from developed countries show more mixed results.

In private sector settings, there are several studies in the field and in the laboratory examining the influence of variable incentives on an agent's willingness to exert more effort (e.g. Banker et al. 1996; Bandiera et al. 2005; Burks et al. 2009; Cadsby et al. 2007; Dickinson and Isaac 1998; Dickinson 2001; Eriksson and Villeval 2008; Fehr and Goette 2007; Fernie and Metcalf 1999; Irlenbusch and Ruchala 2008; Lazear 2000; Paarsch and Shearer 2000; Shearer 2004). Most of them find that variable financial incentives have a positive effect on performance. Whereas the majority of the studies focus on the incentive effect of performance-based pay, only some discuss a sorting effect of variable incentives.

The former refers to the pure effect of incentives on performance whereas the sorting effect refers to the attraction of certain employees to a firm providing specific compensation schemes. Studies on the sorting effect report that firms not only choose performance-based compensation in order to attract certain employees but subjects themselves select certain types of compensation based on their attitudes (Burks et al. 2009; Cadsby et al. 2007; Eriksson and Villeval 2008; Lazear 2000). Additionally, employees selecting specific compensations are reported to be more productive (Cadsby et al. 2007; Dohmen and Falk 2011; Eriksson et al. 2009; Lazear 2000; Lo et al. 2011). This underlines that firms not only attract different employees but that it also exerts an influence on the effectiveness of financial incentives and henceforth individual performance.

Despite those studies on the sorting effect there is very little literature on other factors impacting the matching of employees and organizations (Fehrenbacher 2013; Gerhart and Rynes 2003). But when focusing on variable or performance-dependent incentives it is necessary to include both environmental and individual factors, as well as task characteristics[2] in order to examine an unbiased incentive effect. None of the studies, however, included environmental factors, such as the organizational context, or the individual attitudes of employees or preferences towards certain organizations, which most definitely affect the relationship between financial incentives and performance or effort (Fehrenbacher 2013). Building on the results of sorting into different compensation schemes we suggest that actual self-selection into organizations attracts employees with certain attitudes and that it might therefore also influence the effectiveness of financial incentives. We propose that:

Proposition 1 – Self-Selection into organizations influences the effectiveness of financial incentives.

2.3. Employee Attitudes and Mission Preferences

Previous studies on workers' attitudes report mixed results on individual preferences for, or motivational power of, extrinsic rewards such as pay. However, most of them find differential attitudes towards extrinsic rewards on both public and private managers (Crewson 1997; Karl and Sutton 1998; Khojasteh 1993; Rainey 1982; Wittmer 1991). Several studies find that public sector employees, by contrast to their counterparts in the private sector, value extrinsic rewards less or perceive a weaker relationship between them and their own

[2] Task characteristics can also affect the incentive-performance relationship (Bonner et al. 2000; Camerer and Hogarth 1999; Eriksson and Villeval 2008). However, in an environment where workers face the same task level and task complexity, it can be expected that workers respond the same way to incentives (Burgess and Ratto 2003; Weibel et al. 2010).

performance (Burgess and Ratto 2003; Rainey 1983; Rainey 1989; Wright 2001). Private sector employees also place greater value on promotions and are found to perceive a higher motivational power concerning pay (Crewson 1997; Gkorezis and Petridou 2012; Jurkiewicz et al. 1998; Khojasteh 1993)[3], whereas public sector employees place greater value on helping others and providing a service to society or are empowered by their social relations with supervisors and colleagues, as opposed to financial incentives (Crewson 1997; Gkorezis and Petridou 2012).

However, Crewson (1997) finds no significant sector differences concerning high pay. Some studies report non-significant differences between the values of public and private sector employees, such as Lyons et al. (2006), or report limited differences in work values, with public sector employees even tending to value extrinsic rewards significantly more than private sector employees (Maidani 1991). Other studies show that even public sector employees with a higher public service motivation or involvement in meaningful public service value higher extrinsic rewards (Alonso and Lewis 2001; Georgellis et al. 2011; Rainey 1982; Wittmer 1991; Wright 2007). These mixed results also show that most people, regardless of whether they are employed in the public or private sector, at some level value pay and do not seek employment without expecting some sort of remuneration for their efforts (Taylor and Taylor 2011).

One drawback is that those studies mostly focus on individuals already employed in certain organizations, therefore showing only differences in work preferences that are adapted to the respective organization. However, individuals might generally differ in their preference for employment in specific organizations based on their attitudes, that is, individuals select organizations with congruent values. This leads us to the assumption that self-selection into organizations will come with differences in attitudes among individuals even though they have not yet adapted to the organization's values. Therefore, we propose that:

Proposition 2 – Self-selection into organizations leads to aligned work preferences between individuals and organizations.

As indicated by the studies on differences in work preferences, intrinsic factors play an important role in the motivation of employees. This provides the basis for the assumption that non-pecuniary aspects such as mission motivation could matter both in the motivation of agents, as well as in promoting performance in both public and private organizations.

[3] This study lacks statistical group comparisons. The analysis is solely based on descriptive results.

An organization's mission is defined by its social contribution, purpose, and organizational goals. Given an appealing and attractive mission, people are inspired to perform well in an organization because they identify themselves with the organization's values (Buchanan 1974; Rainey and Steinbauer 1999). Mission choice can affect an organization's productivity in two ways. Firstly, workers motivated by an organization's mission are probably willing to exert more effort for their organization. The mere fact of working in a specific organization could improve their utility, besides the utility from a fixed salary. This could mean that the organization can pay the employee a smaller salary and still receive the same effort level (Besley and Ghatak 2005; Dixit 2002). Additionally, having aligned the mission preferences between workers and organizations, the mission motivation could lead to a productivity premium based on a non-pecuniary aspect (Besley and Ghatak 2005). For instance, if it is difficult to monetarily align incentives between the employee and the organization, it might do the work by aligning preferences (Prendergast 2008).

Empirical studies find that the importance of an organization's mission increases employee work motivation in the public sector. Wright (2007) concludes that this is attributed to employees perceiving their job to be more important without being influenced by variable extrinsic rewards. Wright and Pandey (2008) also propose that public service motivation and job satisfaction are affected by mission valence, i.e. congruent values between the individual and his or her organization. We explore whether self-selection into organizations actually aligns mission preferences and whether or not such congruent values increase a worker's effort and foster organizational performance. We therefore propose:

Proposition 3 – Aligned mission preferences lead to both improved individual effort levels and increased organizational performance.

3. Method

3.1. Experimental Procedure

For this study we conducted a computerized experiment programmed with z-Tree (Fischbacher 2007) at a German university between October 2013 and July 2014. Each session lasted around 55 minutes and the average payoff was 9.5 €, including a show-up fee of 2 €.

We administered two sets of treatments: One where subjects could decide in advance for which organization out of two public and two private ones they wanted to work for in the

experiment (self-selection), and one where subjects were randomly assigned into public or private organization treatments (random assignment). This set-up was chosen in order to disentangle a possible selection from an incentive effect and to see whether or not self-selection into organizations possibly leads to differences in individual attitudes within it. Of the 264 participants, 128 self-selected themselves into treatments, with 60 subjects participating as public sector subjects and 68 as private sector subjects. 136 participants were randomly assigned into treatments, with 68 subjects being selected for the public sector treatments and 68 subjects for the private sector treatments. We chose students as subjects for several reasons: Firstly, in order to be able to compare effort levels of self-selected and randomly selected subjects who have a similar background in terms of education and age. Secondly, subjects already working for an organization have probably adapted to its values (see Burks et al. 2009) which makes it impossible to empirically separate sorting and incentive effects. The results could deliver valuable insights in terms of attracting university trained individuals as employees into both public and private sector organizations. The laboratory experiment consisted of two public and two private organization profiles. The profiles were based on real information provided by the different organizations and differed only concerning their dimensions of publicness (see Boyne 2002), i.e. information on ownership and funding, and political control. Both public organizations are owned by the state, funded by taxes, and controlled by political parties. The private organizations were described as being in the ownership of their partners or shareholders, predominantly funded by returns, and controlled by owners, and influenced by market forces.[4] All four organizations were selected out of the Top 100 most popular employers rated by students in Germany in order to ensure that the subjects were able to select one organization based on their preferences. One organization was the German Central Bank (treatment 1), a second one was the German Foreign Office (treatment 2), the third organization was the GfK – a market research company – (treatment 3) and the fourth was Roland Berger Strategy Consultants – a consultancy firm – (treatment 4).

3.2. Experimental Design

Apart from the self-selection or random assignment into either the public sector or private sector treatments the following experimental set-up was identical. We implemented

[4] Appendix B displays the complete experimental instructions including the organizational profiles for all treatments. The original instructions are in German and translated into English for the purpose of this paper. The instructions display the computerized decision screens of a subject. Participants could indicate their effort level by clicking on the button displaying the specific working hours.

four different scenarios, two portraying a public sector organization and two representing a private sector organization. Following a general introduction on the laboratory proceedings, subjects were each presented with either a random or self-selected organizational profile, including an official description of the organizational structure, mission, financing, and general terms for applicants. To ensure that subjects read the profile, they were asked to write down their opinion about the respective profile. Additionally, we included a control asking subjects whether or not they were familiar with the organization for which they were working ("familiarity with organization") in order to check whether or not the names and profiles of the organizations had an impact on their behavior or decisions.[5] Before they proceeded to the experimental task they had to fill in a short questionnaire which contained questions on mission valence, perceived public or private service efficacy and employment preference concerning the respective organization.

The experimental task was a weak-link game à la van Huyck et al. (1990) and Brandts and Cooper (2006). Subjects were matched into fixed groups of four and acted as employees of one of the four organizations. They interacted anonymously via their computer in the laboratory. In a basic weak-link game subjects each choose an effort level between 0 and 40 working hours for one experimental round. Their payoff depends on a fixed payment of 200 and a variable payment which is determined by a known bonus (b) and the minimum number of hours worked within the same group, including the subject's own choice (e_{min}). An employee also bears costs based on his or her individual chosen effort (e_i). Hence, the individual payoff function can be given as shown in equation (1).

$$\pi_i = 200 + b \times e_{min} - 5 \times e_i \qquad (1)$$

The weak-link game represents the theoretical assumptions of the principal-agent problem in a team environment, because subjects receive a fixed wage which increases their utility, but they also bear costs for exerting effort. The firm or manager overseeing the employees can only observe the weakest effort, but not the individual performance.[6] The game's weak-link structure represents an often observed coordination problem in firms (Ichniowski and Shaw 1997; Knez and Camerer 1994; Knez and Simester 2001), that is, the organizational outcome is determined by the weakest contribution within the firm. Both

[5] Familiarity with the organization had no influence on either the individual or group level as we will show in the analysis section.

[6] Brandts and Cooper (2007) argue that "limiting the manager's information about employees' choices implies that, consistent with the spirit of most principal-agent models, he [or she] has difficulty monitoring them." They highlight that the weak-link game fulfils the assumptions of a principal-agent problem since it is equally valid when the principal individually monitors the employees as compared to the team environment. McGinn and Nöth (2012) also refer to the weak-link game as a principal-agent weak-link game.

subjects and firms would reach a higher outcome for all of them if all subjects would choose the maximum possible number of hours.[7] However, with variable incentives being low (e.g. $b = 6$) subjects will probably face coordination failure, because it is only worthwhile for an individual to raise his or her effort level if it will increase the minimum group effort. The only instrument the organization controls is the bonus rate, i.e. in order to raise the incentive to choose a higher effort, the bonus rate can be increased (e.g. to $b = 10$).

Besides affecting individual payoffs, the bonus rate paid, as well as the minimum number of hours worked, also determine the organizational payoff, which is presented in equation (2):

$$\pi_{firm} = 100 + (60 - 4 \times b) \times e_{min} \qquad (2)$$

Subjects do not have a monetary incentive to increase the organizational outcome. Nevertheless, when everyone maximizes their outcome by virtue of the fact that all choose the highest possible effort level, the organizational outcome is automatically increased.

The weak-link game was played for three times ten rounds and a bonus increase (from $b = 6$ to $b = 10$) was announced after the tenth round. The bonus was neither framed as individual nor as a group level bonus but neutrally represented by the payoff tables and instructions. Subjects were also informed that they would first play the game for ten rounds, before receiving further instructions for the consecutive parts of the experiment. See Appendix B for screenshots of the actual decision screen within the experiment and for the experimental instructions. The subjects received feedback on the effort levels chosen within their group, including the minimum effort, their own payoff, and their organizational payoff after making their decision. Additionally, the aggregate individual and organizational payoff was present on the decision and feedback screen throughout the whole experiment. Before starting the actual weak-link game, a brief comprehension test with questions on the experimental rules was administered to ensure that all subjects understood the decision task instructions and payoff consequences and knew which organization they were working for (in case of the random-selection treatments). At the end of round 30 subjects received feedback on their overall performance and payoff and were asked to fill in a post-experimental questionnaire. We combined the experimental task with self-reporting measures to elicit information on subjects' mission and employment preferences, perceived organizational service efficacy and demographic variables such as age and gender. Furthermore, subjects

[7] There are several Pareto ranked equilibria with all choosing 0 being the lowest and all choosing 40 hours being the highest Pareto ranked equilibrium (van Huyck et al. 1990).

were asked if they took the organization's payoff into consideration and if other factors influenced their decision. Appendix A displays the exact translated wording of the used items.

4. Results

4.1. Descriptive Results on Employee Attitudes

Overall 264 subjects participated which makes 7,920 individual observations for the thirty experimental rounds. 128 out of the 264 subjects selected the respective organization themselves. 136 of the 264 participants were randomly assigned to one of the organizations.

When looking at the matching of individuals and organizations, the question is whether or not self-selection into different organizations influences the organizational outcomes. Based on the assumption that different organizations attract employees with different attitudes and congruent values, self-selection can first of all be expected to lead to positive attitudes towards the respective organization and second of all increase the individual motivation and performance within the (chosen) organization. Subjects in our experiment and more generally those who choose specific organizations to work for are probably attracted by its mission or other organizational characteristics. As a consequence they might be motivated to exert more effort for their organization. In order to determine whether or not self-selection leads to congruent values and possibly to an increased individual and organizational performance, it is of primary interest to examine how randomly assigned subjects actually evaluated the profile of the organization they were matched with as compared to subjects who self-selected their organization in the experiment. We will focus on their perceived mission preferences, preference to work for the organization and their perceived organizational service efficacy. Both the answers for mission valence and perceived organizational service efficacy were calculated as the sum of each individual item's response. Table A1 in Appendix A displays the descriptive results.

Concerning mission preferences, self-selected subjects have significantly higher mission preferences than randomly assigned subjects with a mean of 22.53 as compared to 20.75. (MWU, two-sided, $p = .000$). Having a closer look at the individual mission preference items, subjects for example differ significantly in terms of personally finding the organization's mission fascinating (5.89 vs. 5.19; MWU, two-sided, $p = .000$).

In the same vein, subjects significantly differ concerning their preference for employment in the respective organization (MWU, two-sided, $p = .000$). Self-selected subjects indicated an average employment preference of 5.46 whereas randomly assigned

subjects' mean preference was only 4.30. This gives us a first insight into the matching of employees and organizations. Subjects obviously not only value their chosen organization's mission highly but also have a higher preference to work for the organization than randomly assigned subjects.

The perceived organizational service efficacy on the other hand did not yield a significant difference. Participants in both the randomly assigned and self-selected group equally regarded the organization in question as being moderately effective at delivering its service (MWU, two-sided, $p = .121$ with $ppse_{self\text{-}selection} = 14.93$ and $ppse_{random\ assignment} = 14.25$). This, however, can be attributed to the fact that subjects have not yet worked for the organization and are not able to judge its service efficacy.

Overall, treatments 1 to 4 significantly differ from each other in the individual attitudes towards them (Kruskal-Wallis-Test, $p < .05$). This is only conclusive since the different organizations have different characteristics and therefore also trigger different attitudes concerning mission and employment preference towards them.

The results on individual preferences clearly show that self-selection does indeed lead to different attitudes towards an organization and congruent values between employees and organizations. Result 1 summarizes the findings on employee attitudes.

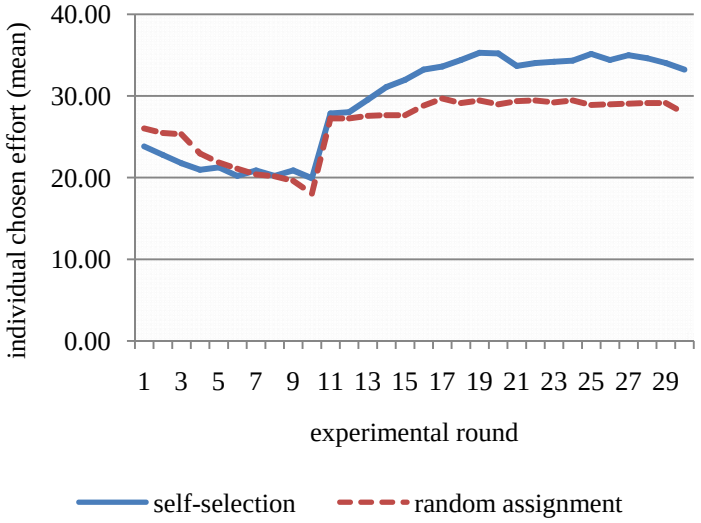
Result 1. Self-selection comes with differences in individual attitudes towards specific organizations and aligns work values between employees and organizations.

4.2. Individual Level

Besides affecting the attitudes towards the respective organization, the question remains as to whether or not self-selection into different treatments or organizations actually fosters a subject's effort and the organizational outcome. Figure 1 displays the chosen effort for both self-selected and randomly assigned subjects from round 1 to 30.

Figure 1

Self-Selection versus Random Assignment



When comparing the chosen effort level of subjects randomly assigned to different treatments with the effort level of those who self-selected their organization, we do not find a significant difference on an aggregate level (MWU, two-sided, p = .586). The first group chose on average 27.29 working hours, the second group chose 28.52 hours. Given those non-existent differences between self-selection and random assignment on an aggregate level, we need to get a better picture of the determinants of individual effort. Does a subject, for example, exert more effort if he or she has congruent values with his or her organization? Table 1 displays a random effects GLS-regression at an individual level with clustered standard errors around experimental groups with the chosen effort from rounds 1 to 30 as the dependent variable.

Table 1

RE GLS Regression for the Individual Effort

	Model 1		Model 2	
Variable	*Coefficient*	*(SE)*	*Coefficient*	*(SE)*
constant	27.985 ***	(1.906)	27.661 ***	(1.929)
self-selection	0.889	(2.081)	0.732	(2.027)
mission preferences	-0.152	(0.176)	-0.417 *	(0.221)
self-selection x mission preferences	-	-	0.620 *	(0.362)
Control Variables				
employment preference	0.579 *	(0.316)	0.633 **	(0.307)
perceived public or private service efficacy	-0.048	(0.154)	-0.047	(0.145)
familiarity with organization	1.282	(1.333)	1.456	(1.357)
organization's payoff considered	2.777 ***	(1.084)	2.902 ***	(1.045)
organization 1	-0.682	(2.902)	-0.628	(2.807)
organization 2	-7.318 **	(3.260)	-7.561 **	(3.178)
organization 3	-3.128	(2.342)	-3.154	(2.287)
Number of observations	7920		7920	
Number of groups	264		264	

Notes. Robust standard errors in parenthesis. Standard error adjusted for 66 clusters in Group. ***p<0.01, **p<0.05, *p<0.1. Model 1: R^2=.0496, Wald chi2 (9)=19.82, Prob>chi2=.019. Model 2: R^2=.0585, Wald chi2 (10)=25.13, Prob>chi2=.005. Organization 4 serves as the reference category.

As shown in model 1, self-selection does not directly influence subjects' chosen effort level, thus confirming the results arrived at before. The average effort is, however, strongly driven by the subject's consideration of the firm's payoff. If subjects took the organizational payoff into consideration they exerted significantly more effort (p = .005). This is an interesting result, since the organizational payoff does not affect the individual profit. However, it seems as if subjects are still willing to exert more effort, which confirms the theoretical considerations that non-monetary factors can also increase a subject's effort without raising pay. Additionally, the preference to work for the specific organization positively affects individual effort showing that subjects are actually choosing more working hours if their preference for employment in the respective organization is higher (p = .039).

Since we do not find a direct influence of self-selection on effort levels per se the question is whether or not it affects performance only if it comes with high mission preferences towards the self-selected organization. Recalling the descriptive results on subjects' attitudes in the experiment, we found that self-selection positively influences the mission preferences towards an organization. One could assume that people are willing to exert more effort for their organization without extra pay because they don't just select their organization at random but are also intrinsically motivated to work for their organization as they have congruent values, e.g. high mission preferences towards the organization. Model 2

in Table 1 displays the interaction between self-selection and mission preferences. The results show that self-selection does indeed significantly affect individual effort if it comes with higher mission preferences ($p = .087$). That is, self-selected individuals exert more effort the higher their mission preferences are. This is only conclusive since subjects, who select an organization at random, without actually being interested in its mission, are not intrinsically motivated to exert additional effort. Secondly, subjects who were randomly assigned to a treatment might consider that the organization has an interesting mission. However, they are not as motivated to work for the respective organization as their self-selected counterparts. The findings are summarized in result 2.

Result 2. Self-selection leads to higher effort levels at an individual level if it comes with higher mission preferences.

Besides observing the exerted effort level and non-financial incentives' influence on it, it is also important to know whether or not a financial incentive even raises individual effort and – second of all – whether or not self-selection and mission preferences influence the effectiveness of a bonus payment. The literature on employees' attitudes has shown that people in general differ concerning their preference for financial or non-financial incentives and might also choose different organizations depending on their preferences. Someone who has chosen a specific organization to work for because he or she has aligned mission preferences towards the organization could be motivated differently by a financial incentive than someone who did not choose the organization or does not share the same values. In order to determine the overall effectiveness of a monetary bonus we first compare individual chosen effort levels at an aggregate level and then compare the chosen effort levels between round 10, where subjects still faced a low variable bonus, and round 11, where subjects were introduced to a high variable bonus for the consecutive rounds. The level of effort increase between rounds 10 and 11 demonstrates the immediate reaction to the bonus payment between self-selected and randomly assigned subjects and determines the effectiveness of a bonus being paid.

At an aggregate individual level, the bonus increase introduced in round 11 significantly increased the chosen effort for both randomly assigned and self-selected subjects for the consecutive rounds. The mean effort level increased from 21.67 (rounds 1 to 10) to 30.24 (rounds 11 to 20) and 31.74 (rounds 21 to 30). The difference of mean efforts in rounds 1 to 10 as compared to 11 to 20 and 21 to 30 is significantly different on a $p = .000$ level and the

difference between rounds 11 to 20 and 21 to 30 is also significantly different (Wilcoxon signed-rank test). The results are in line with previous research on the weak-link game (e.g. Brandts and Cooper 2006; van Huyck et al. 1990).

Concerning the level of effort increase between rounds 10 and 11, we do not find a significant difference between self-selection and random assignment. However, we find an interesting result for the level of the effort increase as a result of the bonus raise when comparing self-selected subjects with high mission preferences to the other subjects. The level of the increase in effort is actually significantly smaller for the self-selected individuals with high mission preferences when compared to the other subjects. They raised their effort on average by 5.57 hours whereas the other subjects raised their effort by 9.83 hours (MWU, two-sided, $p = .055$). That means that intrinsically motivated subjects do not react as strongly to an increase in financial incentives as the other subjects even though overall they exert more effort. This shows that self-selection does indeed influence the effectiveness of a financial incentive, depending on a subject's mission preferences. Financial incentives seem to encourage especially those subjects who are otherwise not necessarily motivated to work for the specific organization. Result 3 summarizes the findings.

Result 3. Self-selected subjects with high mission preferences do not react as strongly to a financial incentive as compared to the other subjects, underlining that the effectiveness of a monetary incentive depends on both self-selection and individual mission preferences.

4.3. Firm Level

Besides looking at the driver of individual performance, the question remains as to whether or not self-selection and individual perceptions on mission valence within a working group have an effect on their performance. So far, we found that the consideration of the organizational payoff and the employment preference both foster an individual's effort, whereas self-selection and mission preferences did not directly influence individual effort. However, when self-selection comes with higher individual mission preferences it fosters individual work effort. Turning to the organizational level, we now focus on the different experimental groups, each composing an organization with four employees. To analyze the influence of, for instance, mission preferences on organizational performance, we calculated the groups' mean values for the relevant variables. An indicator for the organization's performance is the generated payoff from rounds 1 to 30. Table 2 displays a random-effects

GLS regression at group level with the organizational performance represented by the organizational profit as the dependent variable.

Table 2

RE GLS Regression for the Organizational Performance

	Model 1		Model 2	
Variable	*Coefficient*	*(SE)*	*Coefficient*	*(SE)*
constant	362.2538 ***	(135.872)	367.3864 ***	(132.796)
self-selection	20.677	(69.656)	37.803	(68.687)
mission preferences (group)	-40.896	(25.416)	-58.389 **	(25.771)
self-selection x mission preferences (group)	-	-	37.095 *	(21.313)
Control Variables				
employment preference (group)	63.359 *	(36.849)	71.488 *	(38.318)
perceived public or private service efficacy (group)	17.530	(24.504)	20.404	(23.019)
familiarity with organization (group)	185.485	(161.773)	166.336	(163.714)
organization's payoff considered (group)	267.119 **	(125.802)	247.886 **	(121.619)
time spent on comprehension test (group)	-0.558 **	(0.264)	-0.504 **	(0.252)
organization 1	83.204	(166.763)	113.545	(165.767)
organization 2	-103.947	(181.656)	-99.276	(182.611)
organization 3	-34.421	(79.491)	-36.550	(72.997)
Number of observations	1980		1980	
Number of groups	66		66	

Notes. Robust standard errors in parenthesis. Standard error adjusted for 66 clusters in Group. ***p<0.01, **p<0.05, *p<0.1. Model 1: R^2=.1030, Wald chi2 (10)=24.48, Prob > chi2=.006. Model 2: R^2=.1226, Wald chi2 (11)=31.53, Prob > chi2=.000. Organization 4 serves as the reference category.

The results in model 1 reveal that the employment preference within a group does exert an influence on the organizational performance. The more the group of subjects prefers to work for its organization, the higher the organizational outcome (p = 0.086). Yet self-selection and mission preferences within a group do not directly influence the outcome. Turning to model 2, the analysis shows quite an interesting result: Self-selection significantly influences the organizational outcome (p = 0.082) when it comes with higher mission preferences within a group, thus moderating the influence of the group's mission preferences. This underlines the results found for the individual level. Not only do self-selected subjects exert more effort the higher their mission preferences are, but self-selected working groups also achieve a more positive organizational outcome the higher their group's mission preferences are. The results given by model 1 for the consideration of the organizational payoff, as well as the working group's ability – measured by the time spent on the comprehension task – stay the same in model 2: The payoff consideration leads to a positive influence on the organizational

performance whereas the working group's time spent on the comprehension task has a negative effect on the latter.

Taking together the group level results, they clearly show that concerning non-pecuniary aspects of motivation, an organization should consider methods to improve individual effort as well as implement group or organizational incentives. It is interesting to see that individual attitudes affect the organizational payoff on a group level, which underlines that both individual attitudes and working groups' perceptions have to be taken into account. The results provide an interesting indicator of the influence of self-selection, mission and employment preferences. Result 4 outlines the results found for the working groups.

Result 4. Aligned mission preferences foster performance in self-selected working groups.

5. Discussion

We showed that a subject's perception of his or her organization's mission, as well as the personal employment preference, both partly affect the individual effort and are also able to improve the organizational outcome. The results provide an invaluable insight into the role of self-selection in both directly affecting individual attitudes of employees, as well as indirectly affecting individual performance and organizational outcomes. Since we are able to compare random assignment and self-selection into organizations we can show that self-selection comes with significantly higher mission and employment preferences of subjects. In other words, when subjects choose a specific organization, they are more willing to work for it than by random assignment and are more attracted to its mission. This confirms that specific organizations *do* attract subjects with congruent values and specific attitudes. However, whereas self-selection did not directly influence subjects on an individual or organizational level, the analysis showed that self-selection moderates the influence of mission preferences on both the individual effort and organizational outcome and indirectly determines the effectiveness of a monetary bonus. We add to the literature by showing that in the matching of employees and organizations, individuals do indeed select organizations which have congruent values and that organizational characteristics can influence the level of preferences of individuals. Self-selection, therefore, aligns mission preferences. Furthermore, our results show that when discussing financial and non-financial incentives both the individual and group levels are necessary in determining a true incentive effect. In a weak-link team

environment were members of a group depend on each other in terms of their workload, the group's overall attitudes and values are also important in determining their performance.

The weak-link design of our experiment also has its limits. As suggested by the literature on weak-link games the order of a bonus increase or decrease is decisive for the resulting effect. Brandts and Cooper (2006a; 2006b) have studied the variation of bonus increases and decreases showing how ordering effects come into play. We kept the order of incentives constant because we did not focus on financial incentives as a treatment variable determining what kinds of bonus payments influence a subject's decision but instead wanted to know if monetary incentives and non-monetary incentives such as mission motivation influence a subject's effort level. A further limitation is the type of task we chose. In line with previous studies in the private sector and laboratory we focused on a simple task. However, the type of task in terms of complexity and ability requirements influences the degree to which variable incentives affect performance (Bonner et al. 2000; Camerer and Hogarth 1999; Eriksson and Villeval 2008). It would therefore be useful to see whether or not financial and non-financial incentives affect individuals and different organizations in a more complex task.

Our results have important implications for both private and public organizations. We show that subjects are attracted by specific characteristics such as the organizational mission, which underlines that the sorting effect based on preferences for certain work attitudes can not only attract individuals with certain attitudes but also affects organizational outcomes as well. Organizations which are perceived as having an exciting mission can improve their performance by attracting individuals with such congruent values. Usually, theoretical and empirical work, for instance on the new public management (see Boyne 2002), seek to transfer private organizational practices to public organizations in order to introduce a more efficient management style. However, private management firms can learn from public organizations (Benz and Frey 2007). Our study suggests that it may also be the other way around because public institutions such as the Foreign Office have an exciting mission, are perceived to be more effective, and subjects have a higher preference to work for it, which in turn was shown to affect both the individual and organizational outcome. Similarly, financial incentives are shown to be effective overall, since they raise both public and private sector subjects' efforts. Hence, when focusing on both monetary and non-monetary incentives, an organization might still pay less than what it gets even after introducing financial incentives.

Appendix A: Study Measures

Questionnaire Items

To assess a subject's *mission valence* we administered a four-item scale based on Wright and Pandey (2011). Responses to the questionnaire items were recorded using a 7-point Likert scale (ranging from 1 = "not agree at all" to 7 = "completely agree"):

- This organization provides valuable public (private) services.
- I believe that the priorities of this organization are of considerable significance for society.
- The work of this organization is broadly speaking not very significant. (R)
- I regard the mission of this organization as being fascinating.

The *employment preference* of subjects was measured by a simple one-item 7-point Likert scale (ranging from 1 = "not agree at all" to 7 = "completely agree") to elicit information on a subject's willingness to work for the organization he or she was matched with in the experiment:

- I could envisage working for this organization.

We measured the *perceived organizational service efficacy* by using Boardman and Sunquists' (2009) three-item scale. Responses to the questionnaire items were also recorded using a 7-point Likert scale (ranging from 1 = "not agree at all" to 7 = "completely agree"). In order to apply it to the private sector we modified two of the three items:

- This organization can provide services the public needs.
- This organization can satisfy public needs.
- This organization can provide a high quality of public (private) services.

Descriptive Results

Table A1 displays the mean values and standard deviations of randomly assigned and self-selected subjects for their employment preference, mission preferences and perceived public or private service efficacy separately and in total for the different treatments.

Table A1

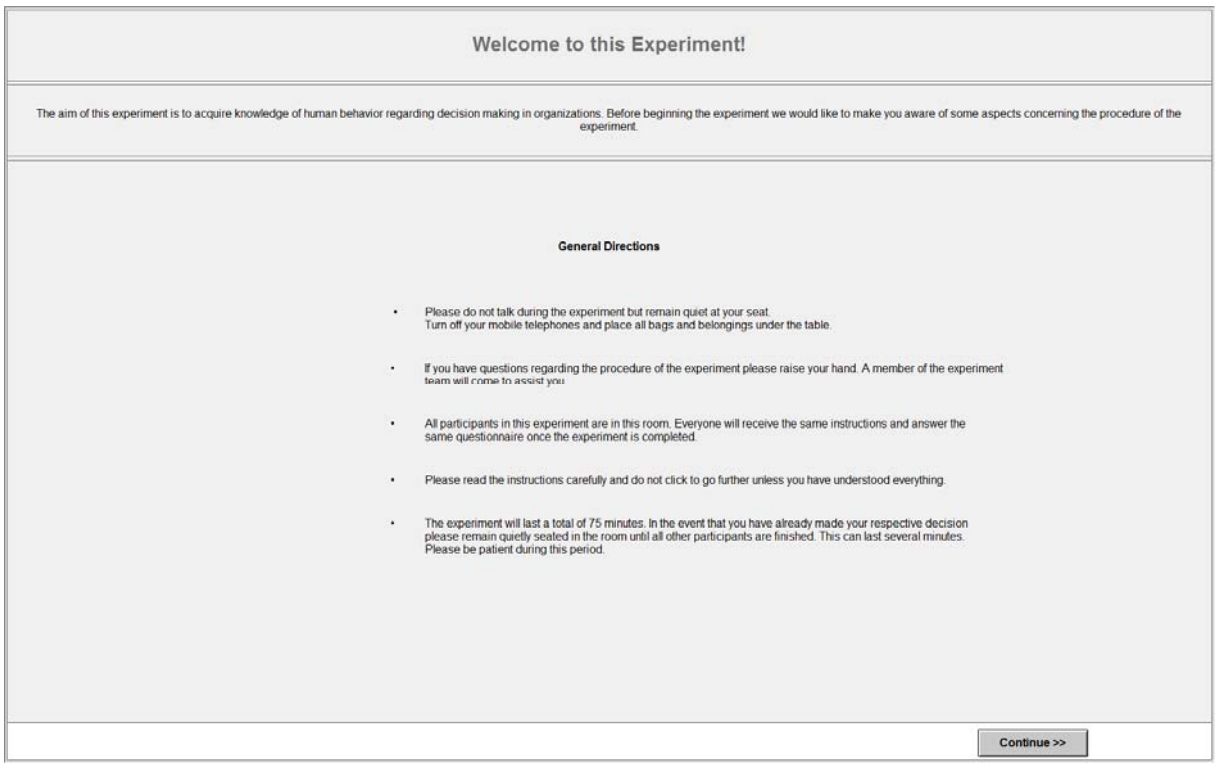
Descriptive Results on Employee Attitudes

treatment			employment preference	mission preferences	ppse
1	random assignment	mean	3.250	21.969	13.844
		std.dev.	1.917	3.355	3.725
		n=32			
	self-selection	mean	4.285	23.000	14.392
		std.dev.	2.370	3.651	3.774
		n=28			
	total	mean	3.733	22.450	14.100
		std.dev.	2.185	3.505	3.726
		n=60			
2	random assignment	mean	5.638	24.333	15.277
		std.dev.	1.588	3.488	3.526
		n=36			
	self-selection	mean	6.125	25.968	15.687
		std.dev.	1.008	1.991	3.020
		n=32			
	total	mean	5.867	25.102	15.470
		std.dev.	1.359	2.978	3.280
		n=68			
3	random assignment	mean	4.281	18.312	13.375
		std.dev.	1.987	4.238	3.544
		n=32			
	self-selection	mean	5.638	20.972	14.333
		std.dev.	1.376	3.476	3.601
		n=36			
	total	mean	5.000	19.720	13.882
		std.dev.	1.812	4.051	3.580
		n=68			
4	random assignment	mean	3.944	18.250	14.388
		std.dev.	1.970	4.692	3.547
		n=36			
	self-selection	mean	5.625	20.437	15.343
		std.dev.	1.581	4.384	3.497
		n=32			
	total	mean	4.735	19.279	14.838
		std.dev.	1.974	4.648	3.530
		n=68			
total	random assignment	mean	4.308	20.750	14.257
		std.dev.	2.045	4.735	3.614
		n=136			
	self-selection	mean	5.460	22.531	14.937
		std.dev.	1.733	4.079	3.488
		n=128			
	total	mean	4.867	21.613	14.587
		std.dev.	1.983	4.510	3.563
		n=264			

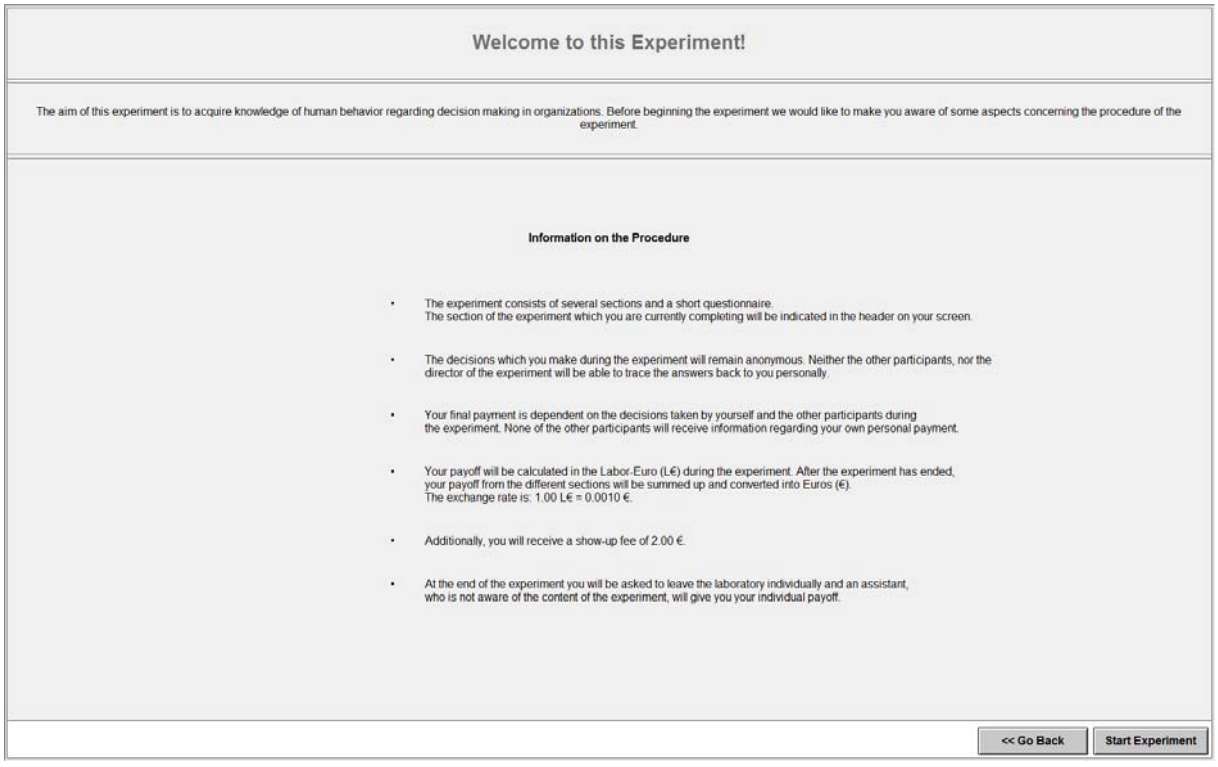
Appendix B: Experimental Instructions

Self-Selection – Treatment 1

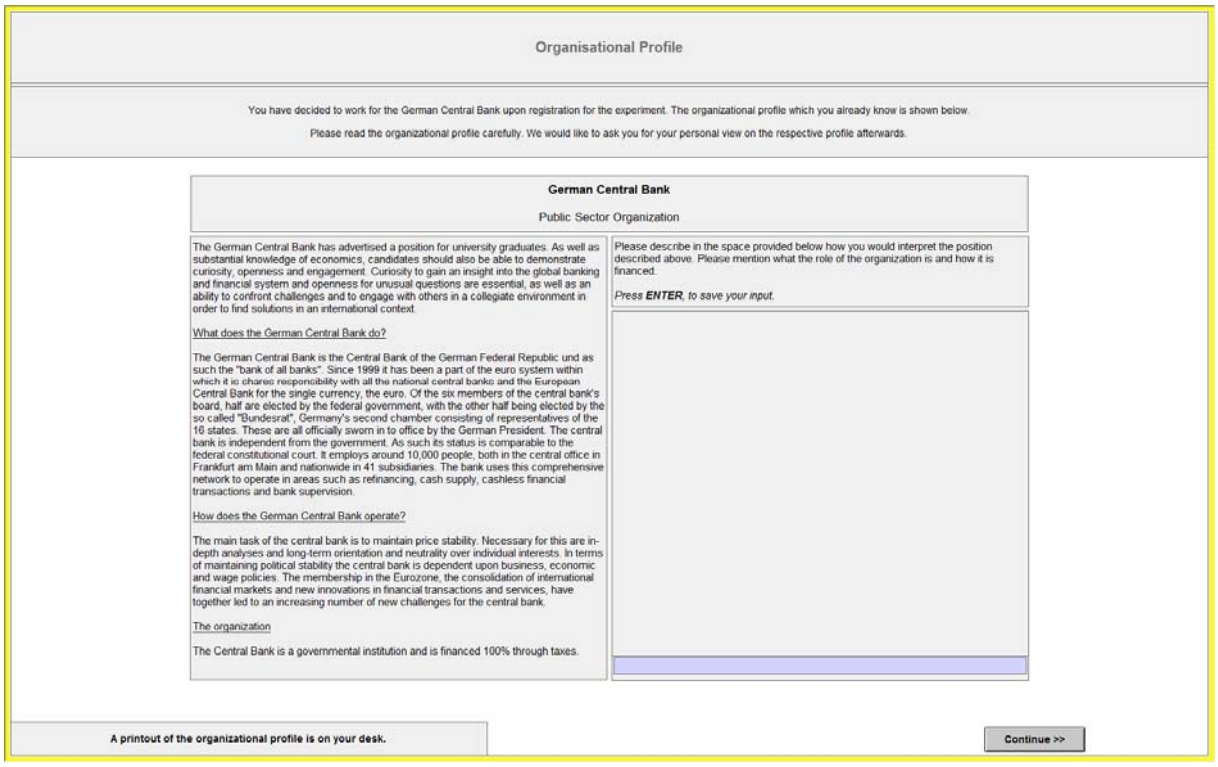
Instructions 1/2



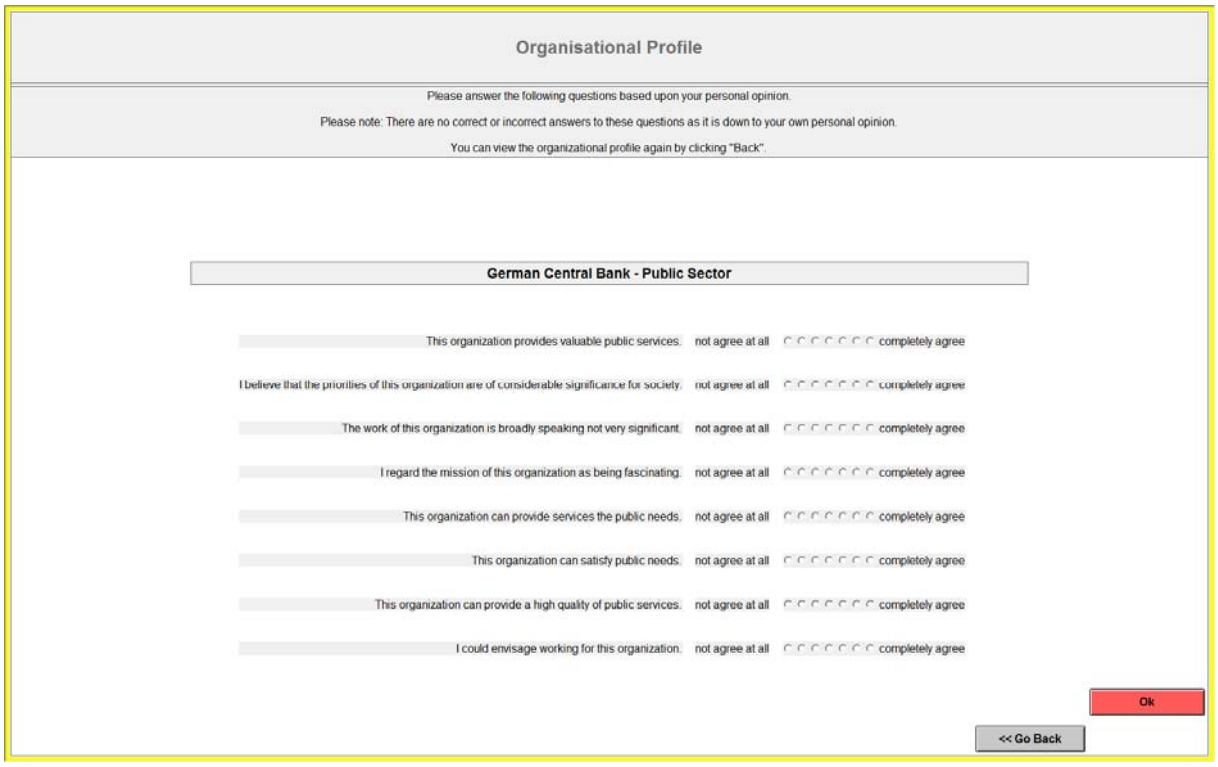
Instructions 2/2



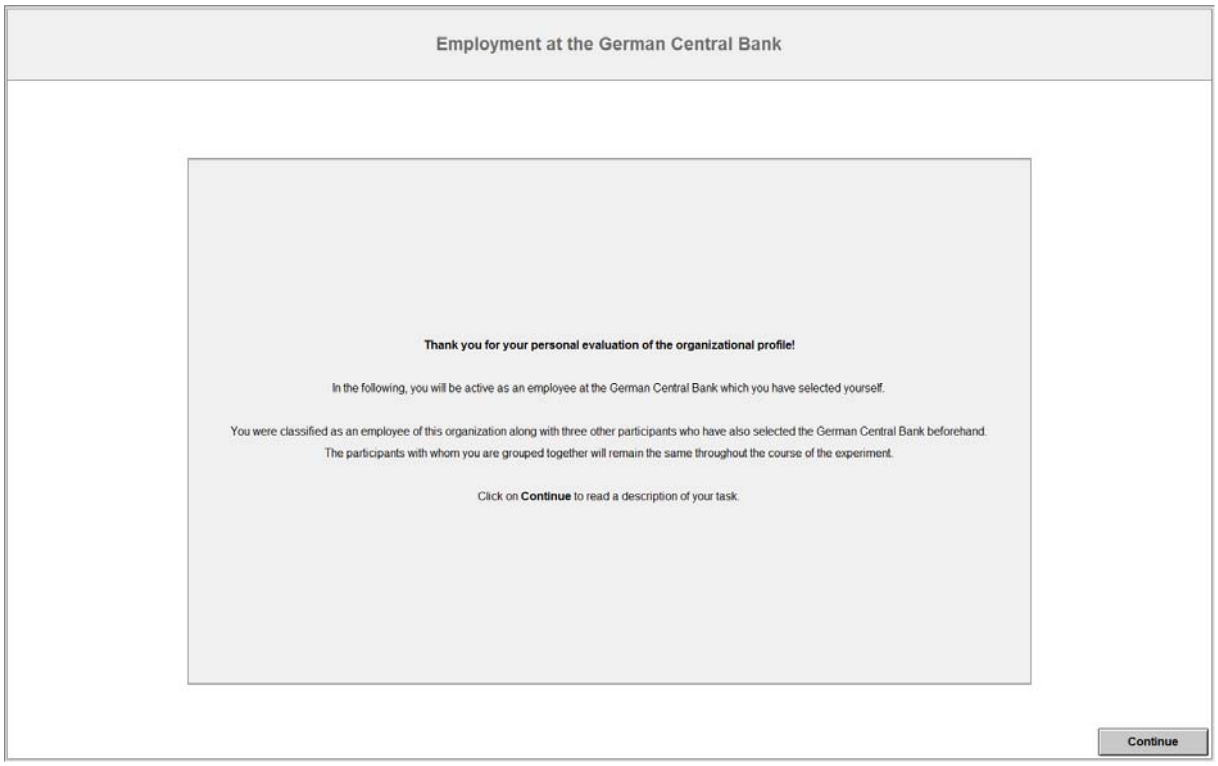
Organizational Profile (Treatment 1)



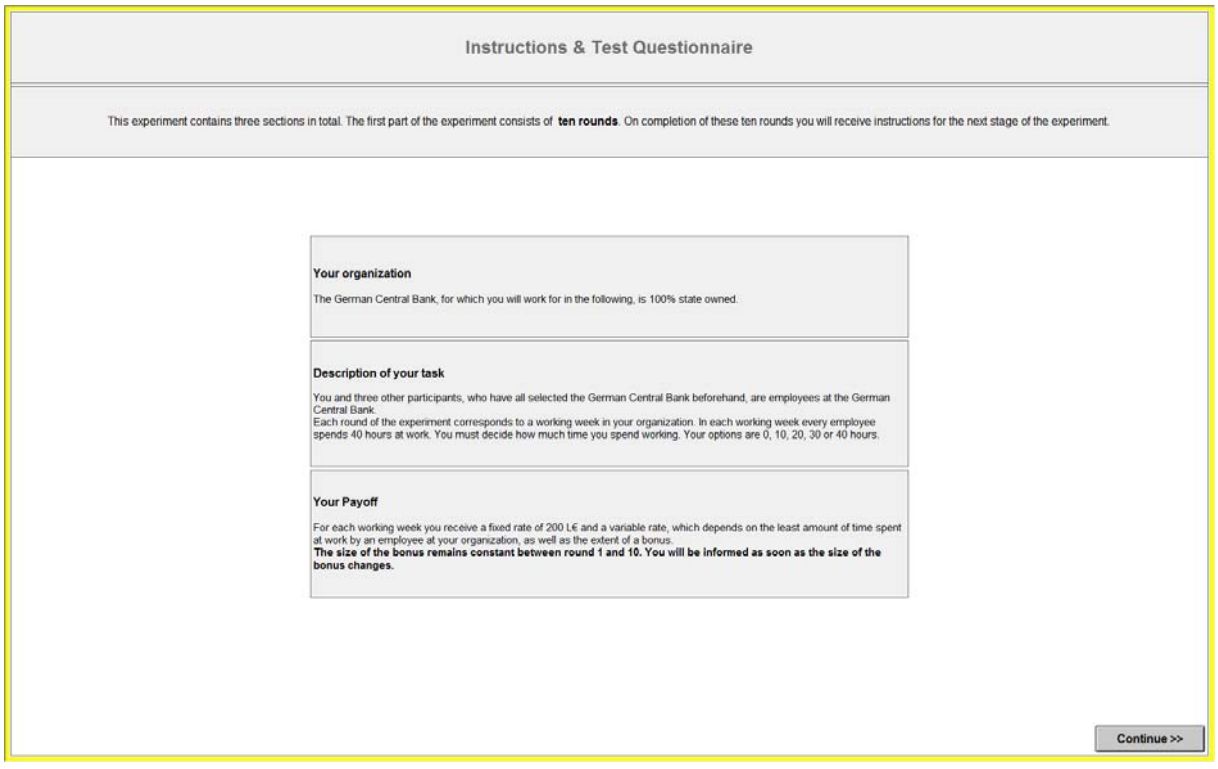
Organizational Profile - Questionnaire



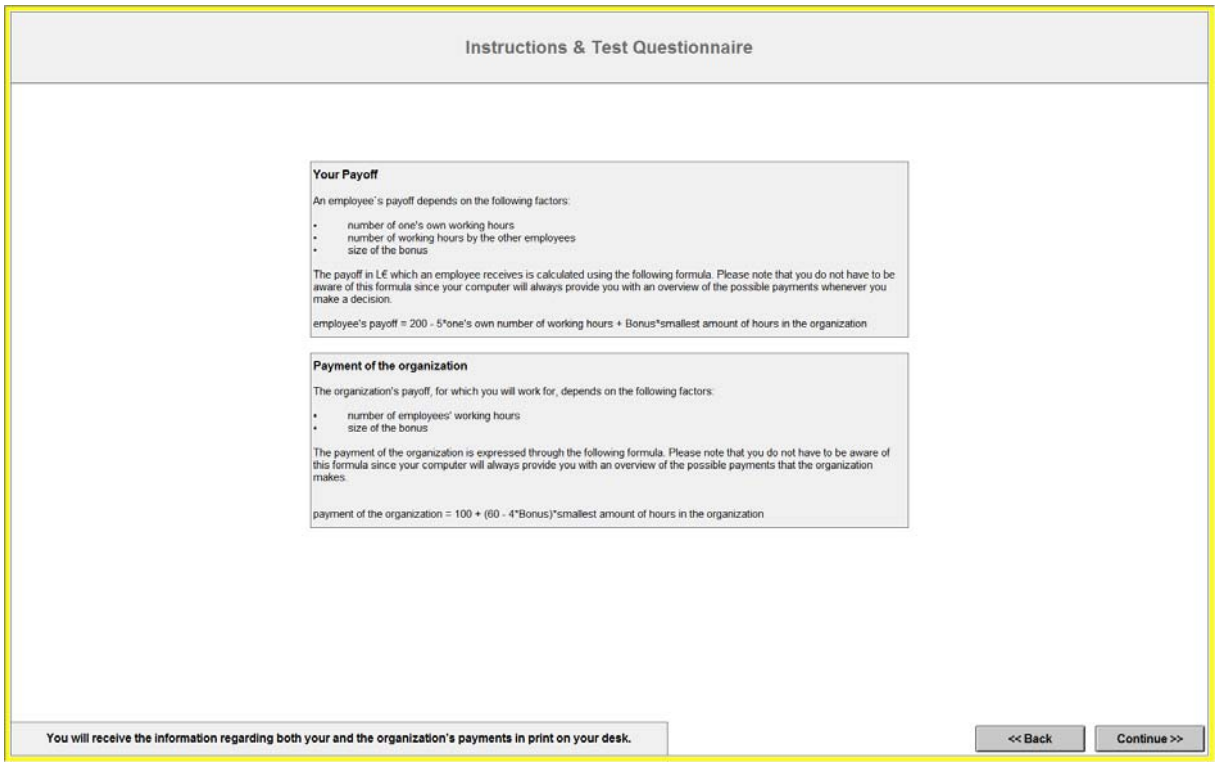
Matching Screen



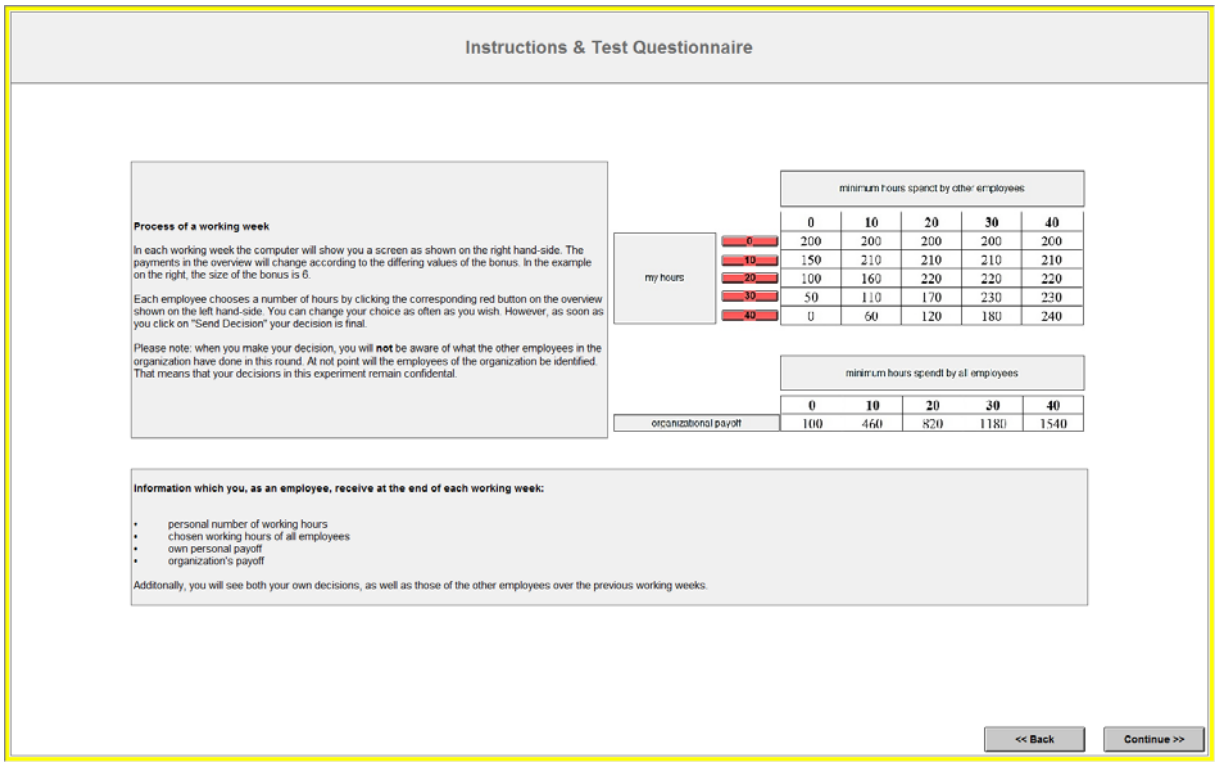
Task Instructions 1/4



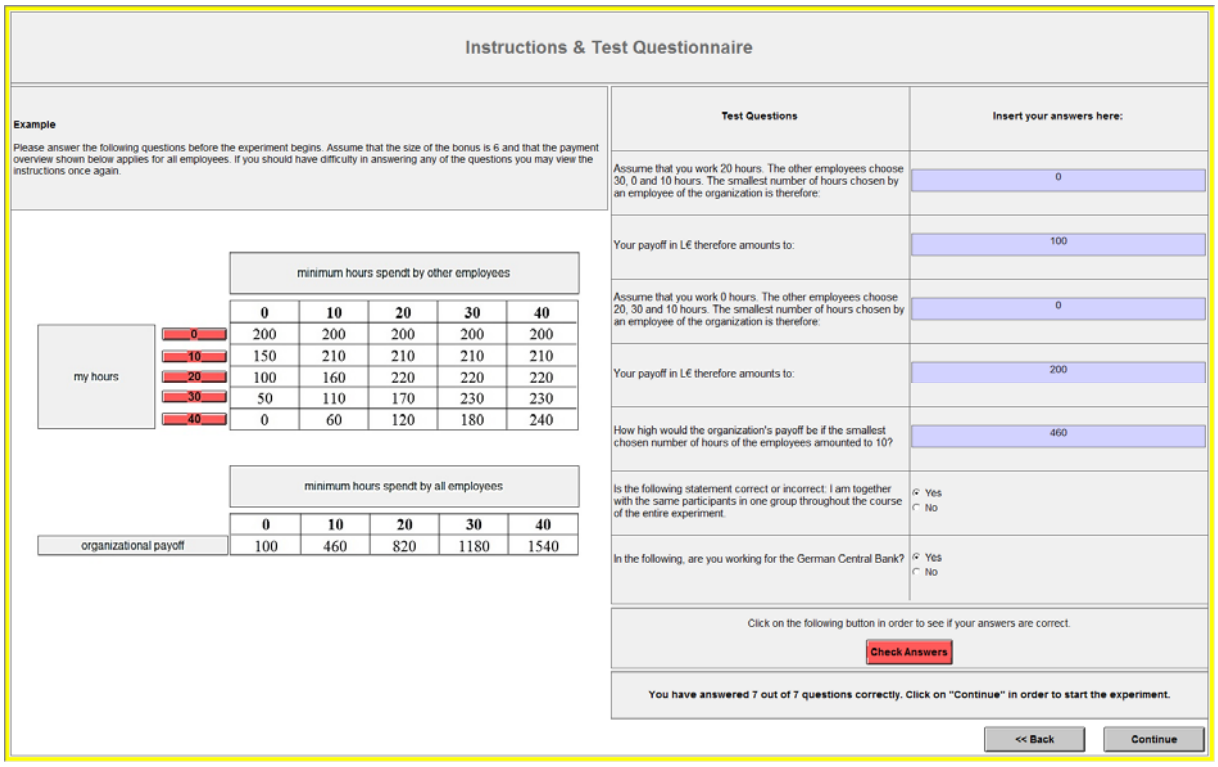
Task Instructions 2/4



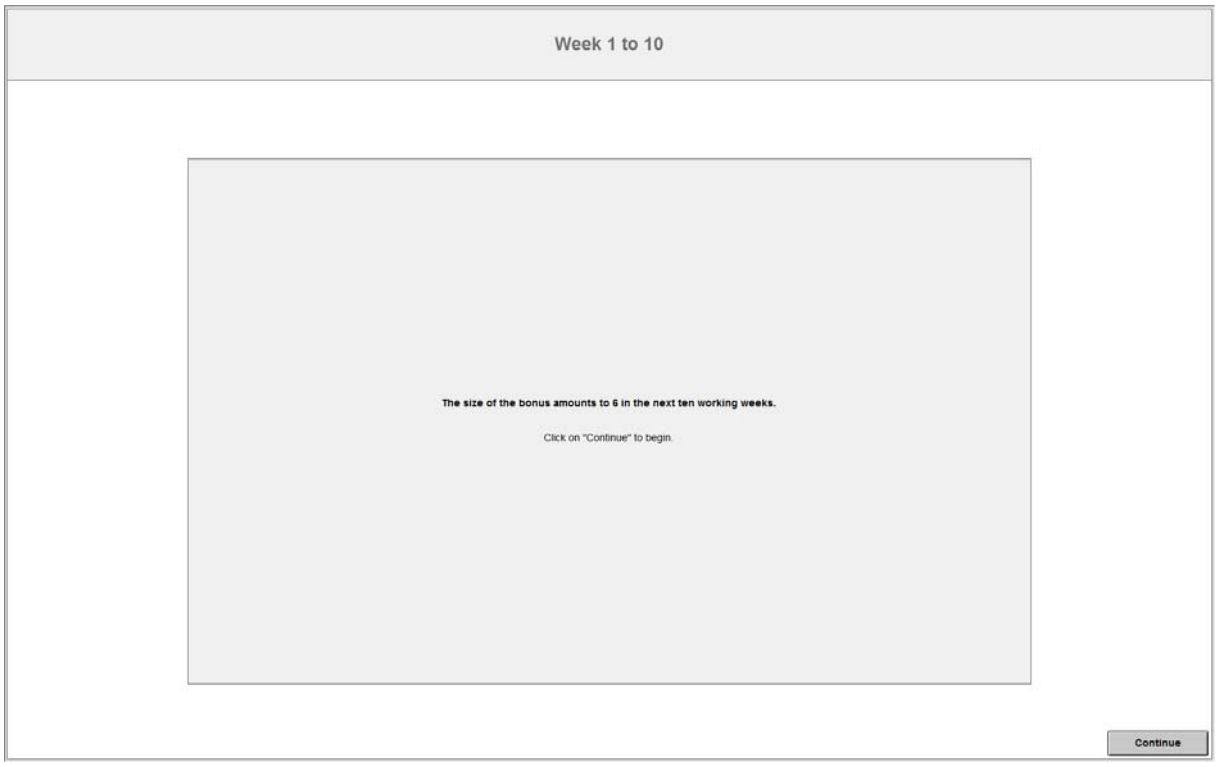
Task Instructions 3/4



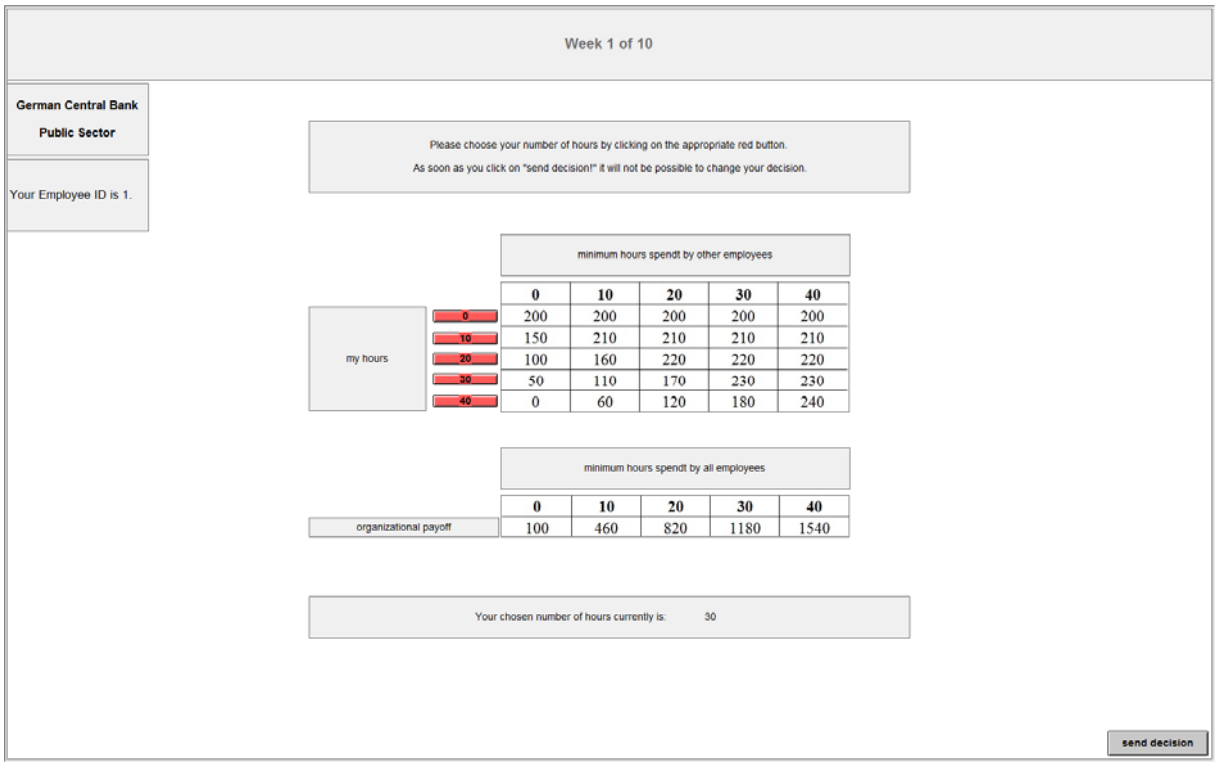
Task Instructions 4/4



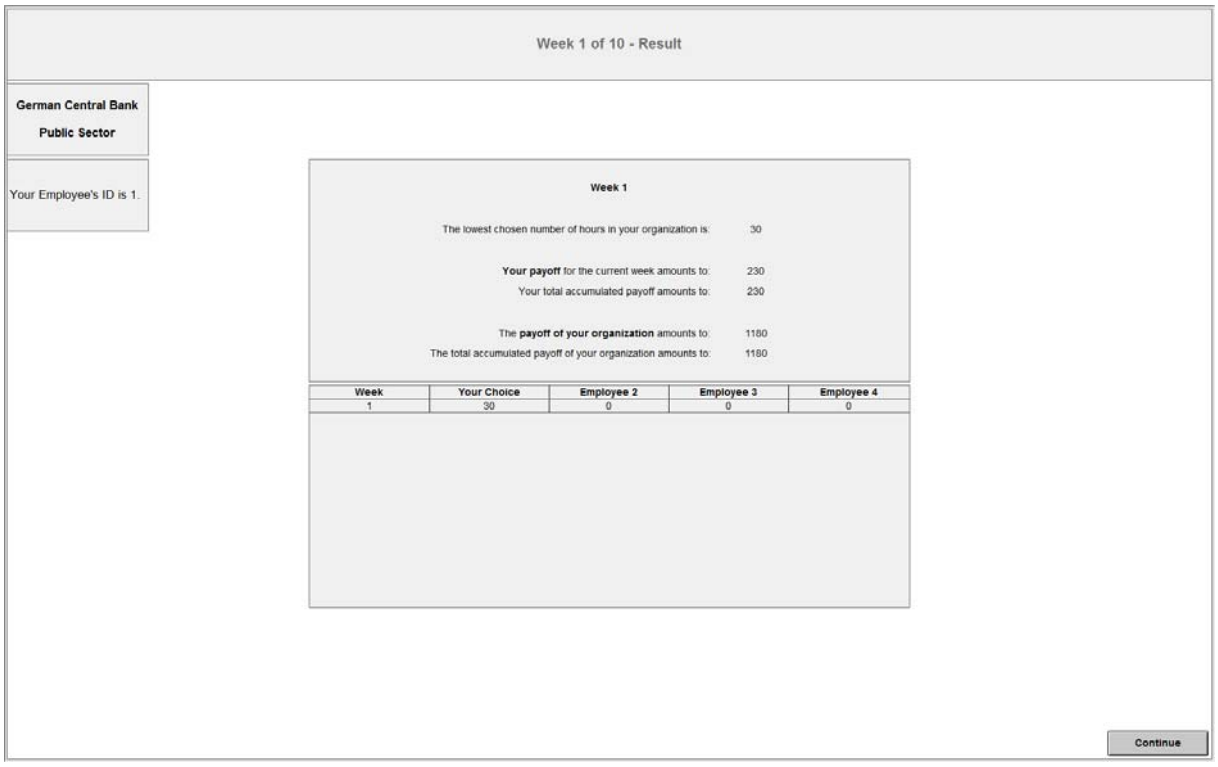
Screen Preceding Week 1 to 10



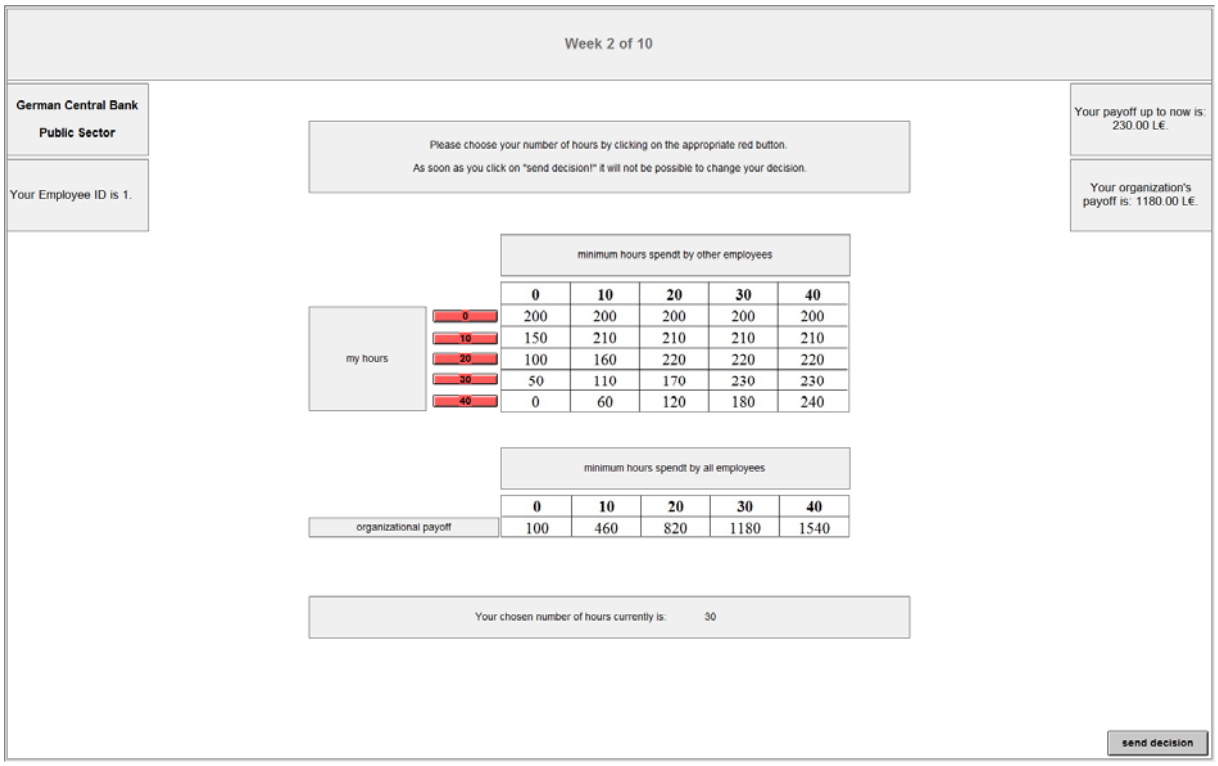
Week 1 of 10



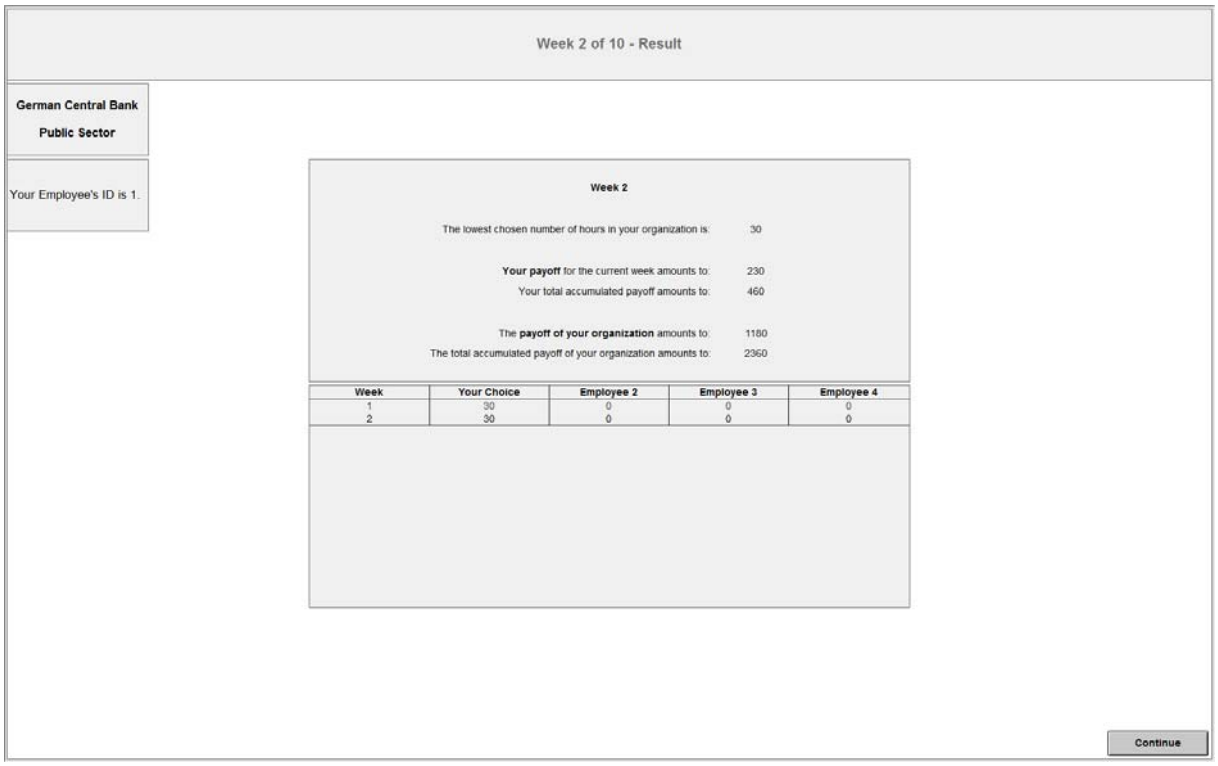
Week 1 of 10 – Results



Week 2 of 10

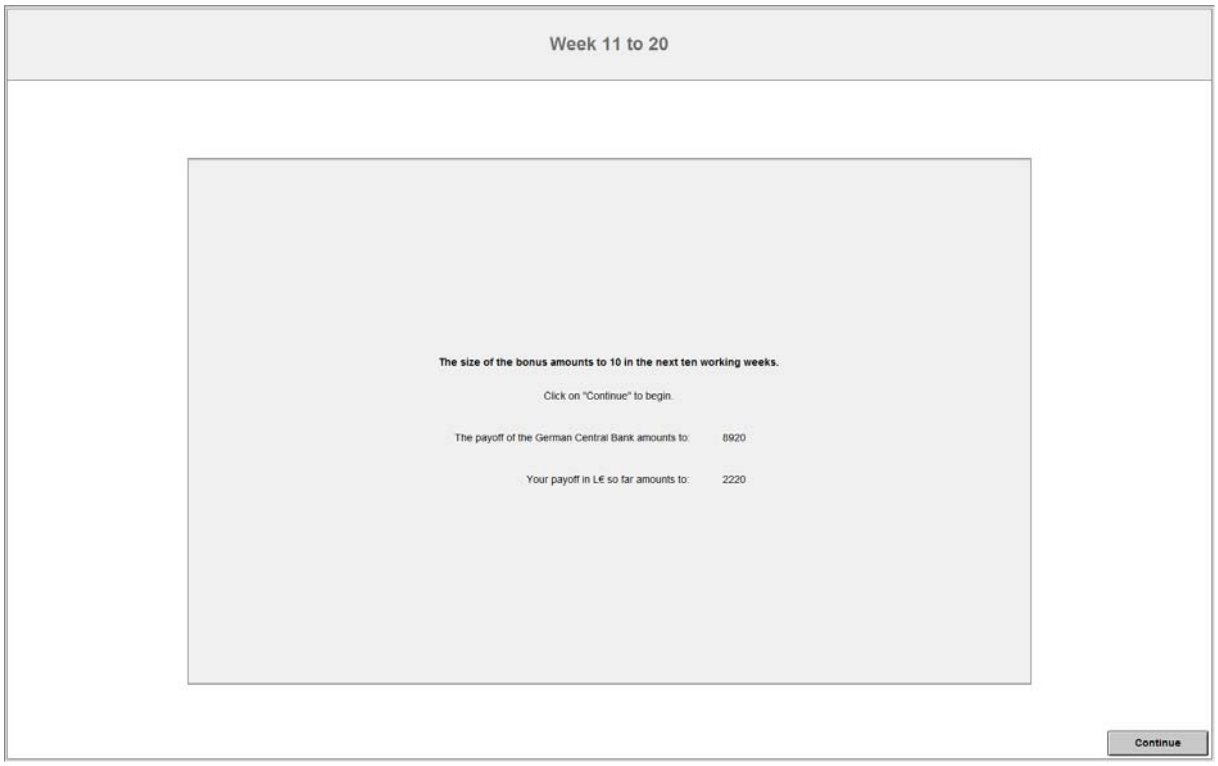


Week 2 of 10 – Results

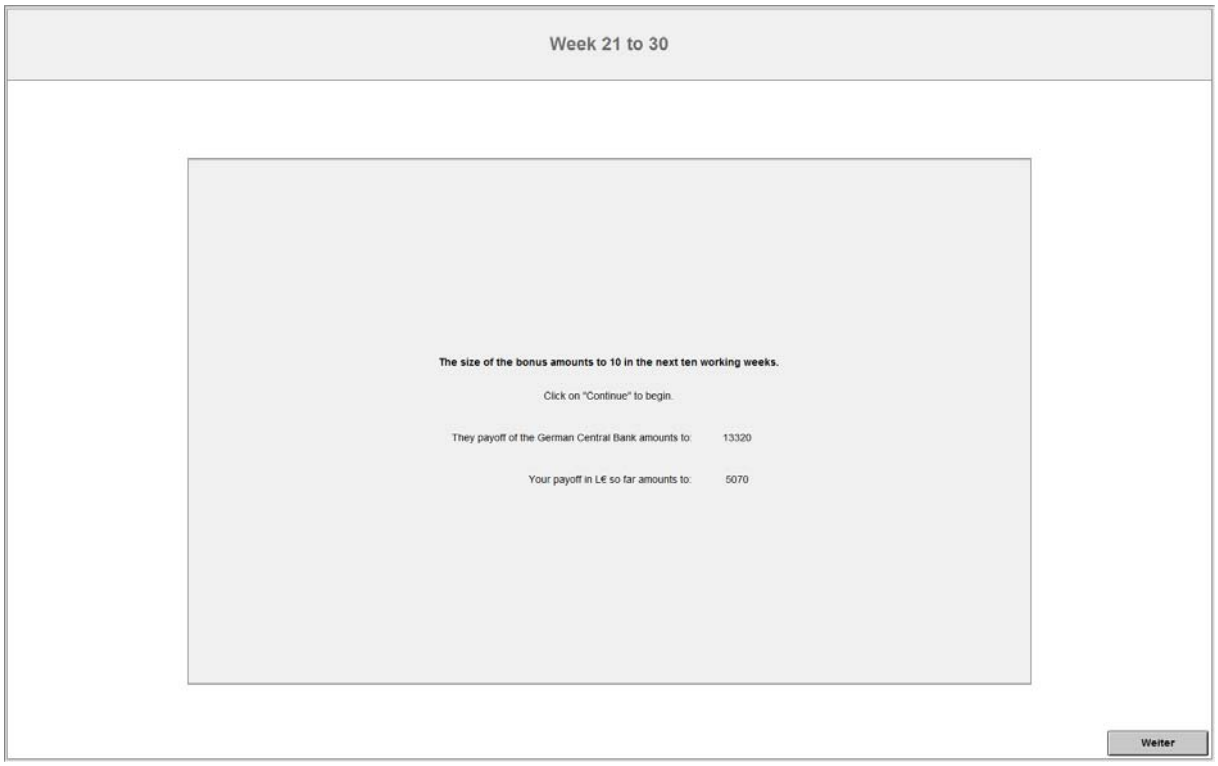


Note: The task and result screens for week 3 to 30 are exactly the same as shown above for weeks 1 and 2. Only the history box on the results screens changes depending on the results from previous weeks.

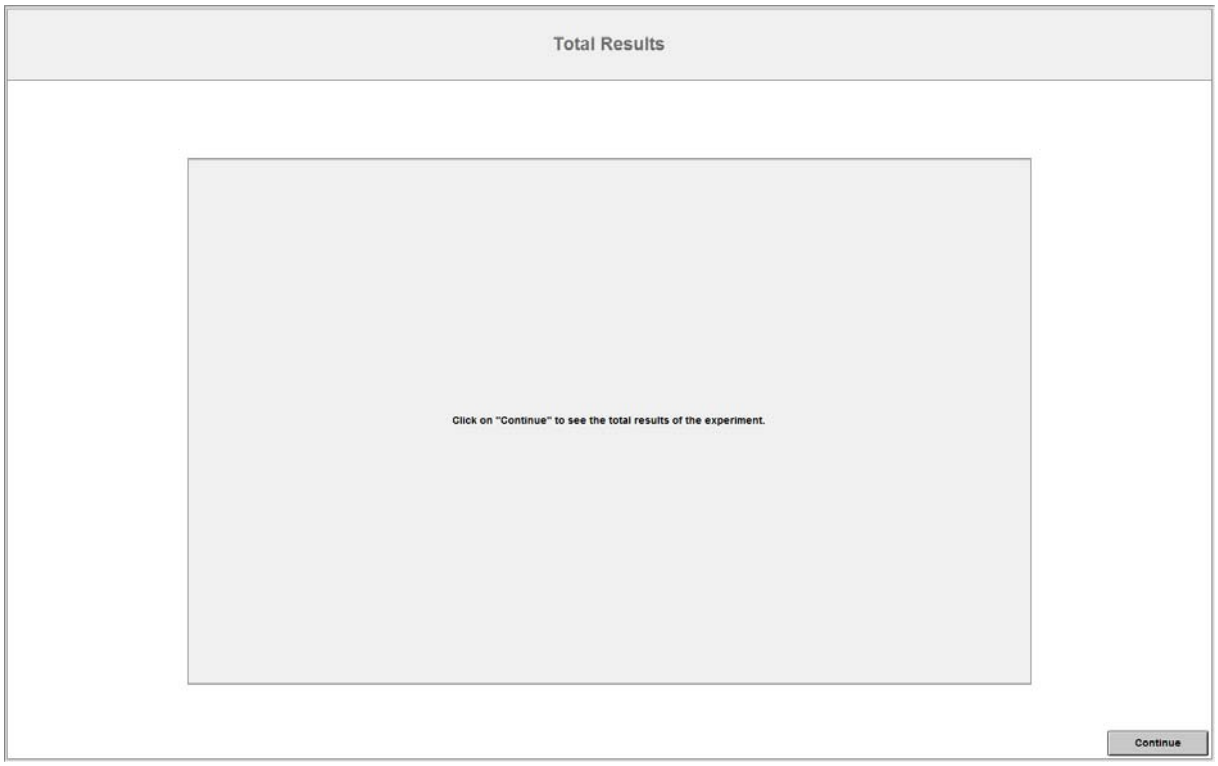
Screen Preceding Week 11 to 20



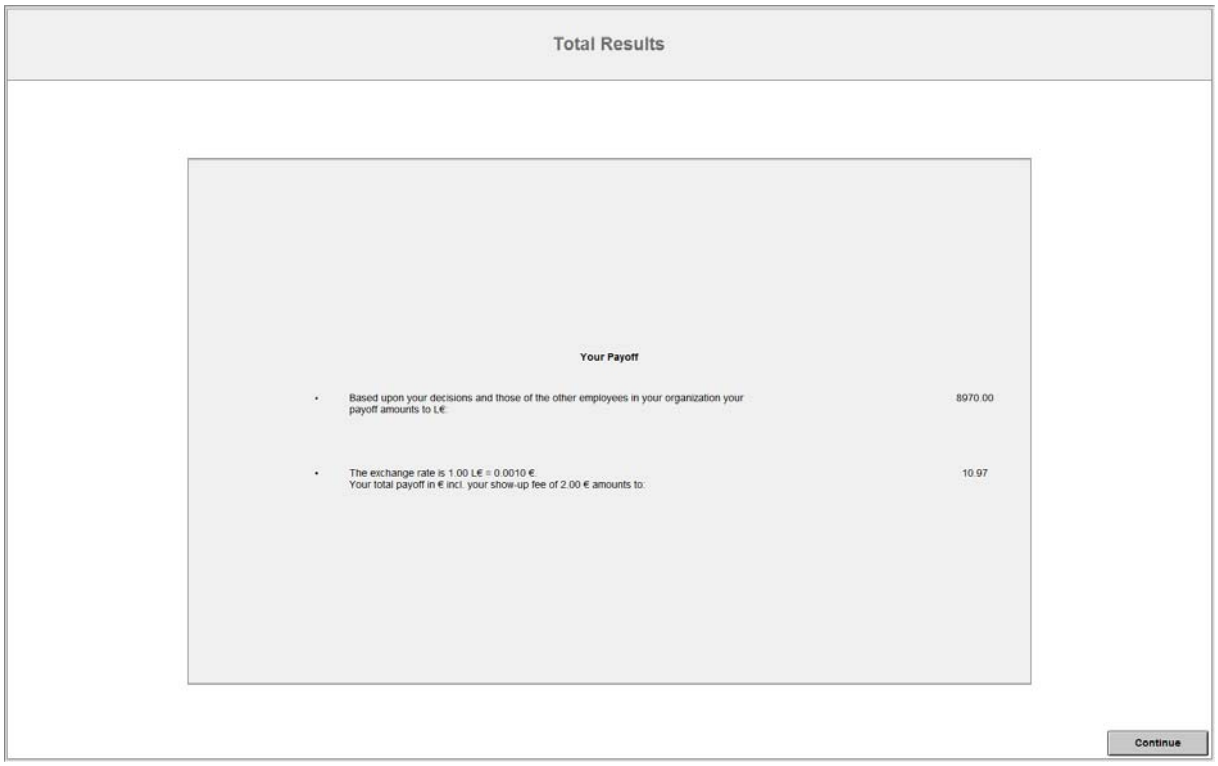
Screen Preceding Week 21 to 30



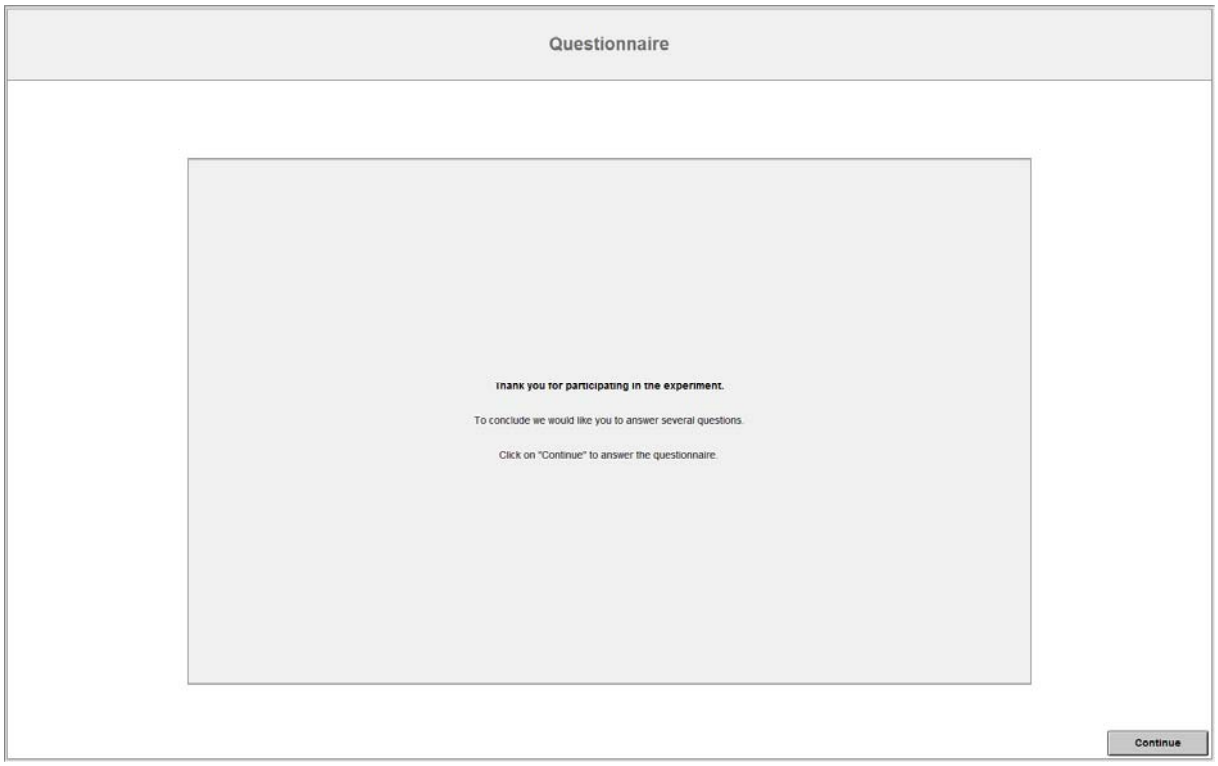
Screen Preceding Total Results



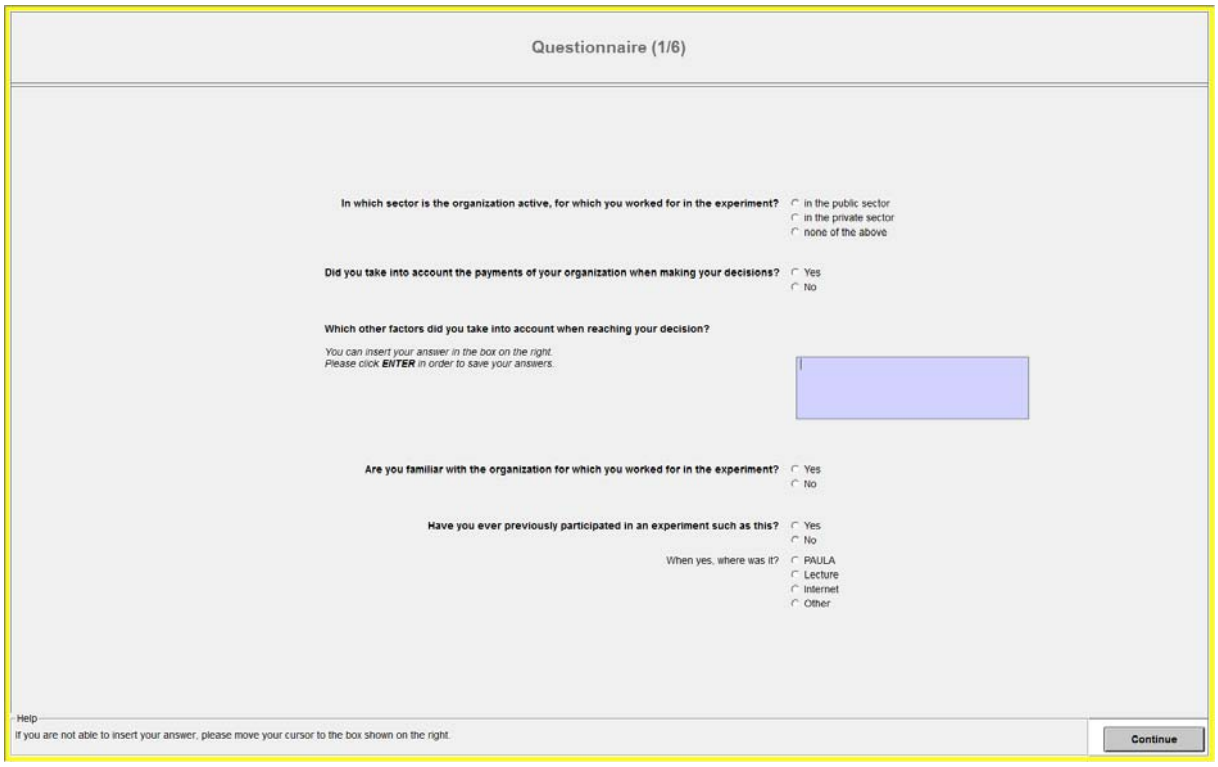
Total Results



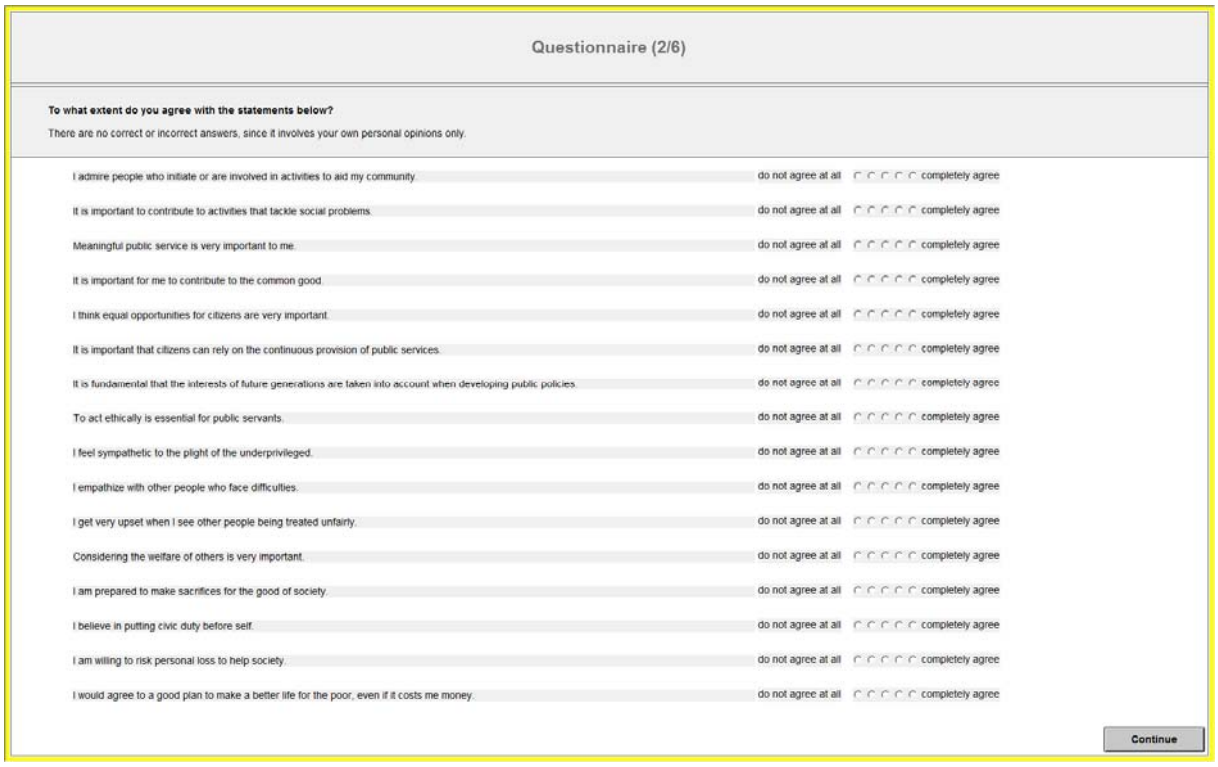
Screen Preceding the Questionnaire



Questionnaire 1/6



Questionnaire 2/6



Questionnaire (2/6)

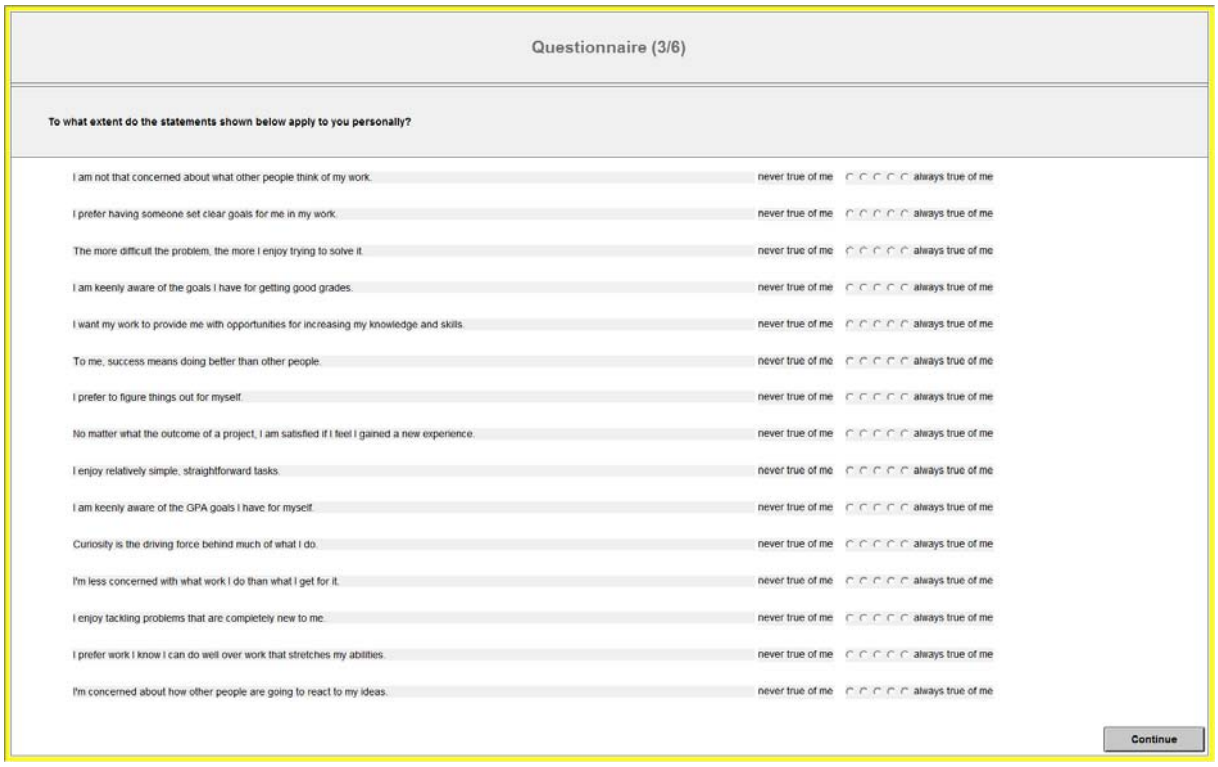
To what extent do you agree with the statements below?

There are no correct or incorrect answers, since it involves your own personal opinions only.

I admire people who initiate or are involved in activities to aid my community.	do not agree at all ○ ○ ○ ○ ○ completely agree
It is important to contribute to activities that tackle social problems.	do not agree at all ○ ○ ○ ○ ○ completely agree
Meaningful public service is very important to me.	do not agree at all ○ ○ ○ ○ ○ completely agree
It is important for me to contribute to the common good.	do not agree at all ○ ○ ○ ○ ○ completely agree
I think equal opportunities for citizens are very important.	do not agree at all ○ ○ ○ ○ ○ completely agree
It is important that citizens can rely on the continuous provision of public services.	do not agree at all ○ ○ ○ ○ ○ completely agree
It is fundamental that the interests of future generations are taken into account when developing public policies.	do not agree at all ○ ○ ○ ○ ○ completely agree
To act ethically is essential for public servants.	do not agree at all ○ ○ ○ ○ ○ completely agree
I feel sympathetic to the plight of the underprivileged.	do not agree at all ○ ○ ○ ○ ○ completely agree
I empathize with other people who face difficulties.	do not agree at all ○ ○ ○ ○ ○ completely agree
I get very upset when I see other people being treated unfairly.	do not agree at all ○ ○ ○ ○ ○ completely agree
Considering the welfare of others is very important.	do not agree at all ○ ○ ○ ○ ○ completely agree
I am prepared to make sacrifices for the good of society.	do not agree at all ○ ○ ○ ○ ○ completely agree
I believe in putting civic duty before self.	do not agree at all ○ ○ ○ ○ ○ completely agree
I am willing to risk personal loss to help society.	do not agree at all ○ ○ ○ ○ ○ completely agree
I would agree to a good plan to make a better life for the poor, even if it costs me money.	do not agree at all ○ ○ ○ ○ ○ completely agree

Continue

Questionnaire 3/6



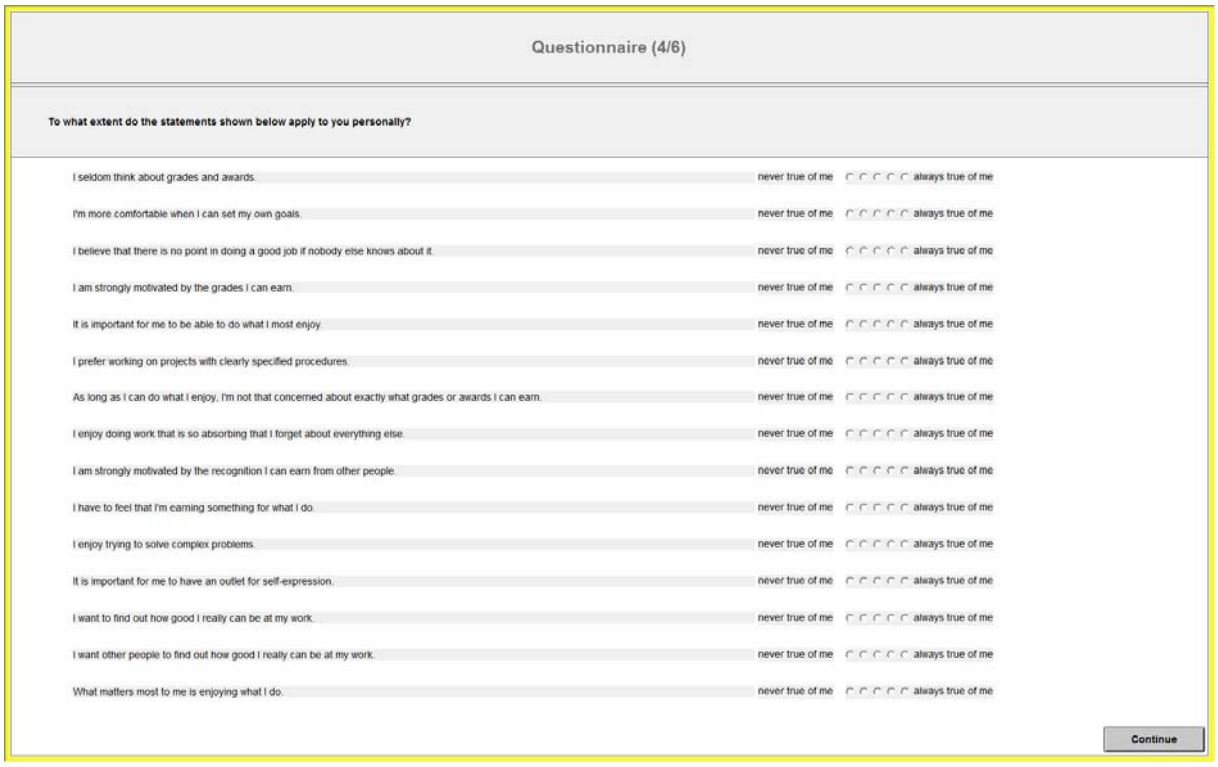
Questionnaire (3/6)

To what extent do the statements shown below apply to you personally?

I am not that concerned about what other people think of my work.	never true of me ○ ○ ○ ○ ○ always true of me
I prefer having someone set clear goals for me in my work.	never true of me ○ ○ ○ ○ ○ always true of me
The more difficult the problem, the more I enjoy trying to solve it.	never true of me ○ ○ ○ ○ ○ always true of me
I am keenly aware of the goals I have for getting good grades.	never true of me ○ ○ ○ ○ ○ always true of me
I want my work to provide me with opportunities for increasing my knowledge and skills.	never true of me ○ ○ ○ ○ ○ always true of me
To me, success means doing better than other people.	never true of me ○ ○ ○ ○ ○ always true of me
I prefer to figure things out for myself.	never true of me ○ ○ ○ ○ ○ always true of me
No matter what the outcome of a project, I am satisfied if I feel I gained a new experience.	never true of me ○ ○ ○ ○ ○ always true of me
I enjoy relatively simple, straightforward tasks.	never true of me ○ ○ ○ ○ ○ always true of me
I am keenly aware of the GPA goals I have for myself.	never true of me ○ ○ ○ ○ ○ always true of me
Curiosity is the driving force behind much of what I do.	never true of me ○ ○ ○ ○ ○ always true of me
I'm less concerned with what work I do than what I get for it.	never true of me ○ ○ ○ ○ ○ always true of me
I enjoy tackling problems that are completely new to me.	never true of me ○ ○ ○ ○ ○ always true of me
I prefer work I know I can do well over work that stretches my abilities.	never true of me ○ ○ ○ ○ ○ always true of me
I'm concerned about how other people are going to react to my ideas.	never true of me ○ ○ ○ ○ ○ always true of me

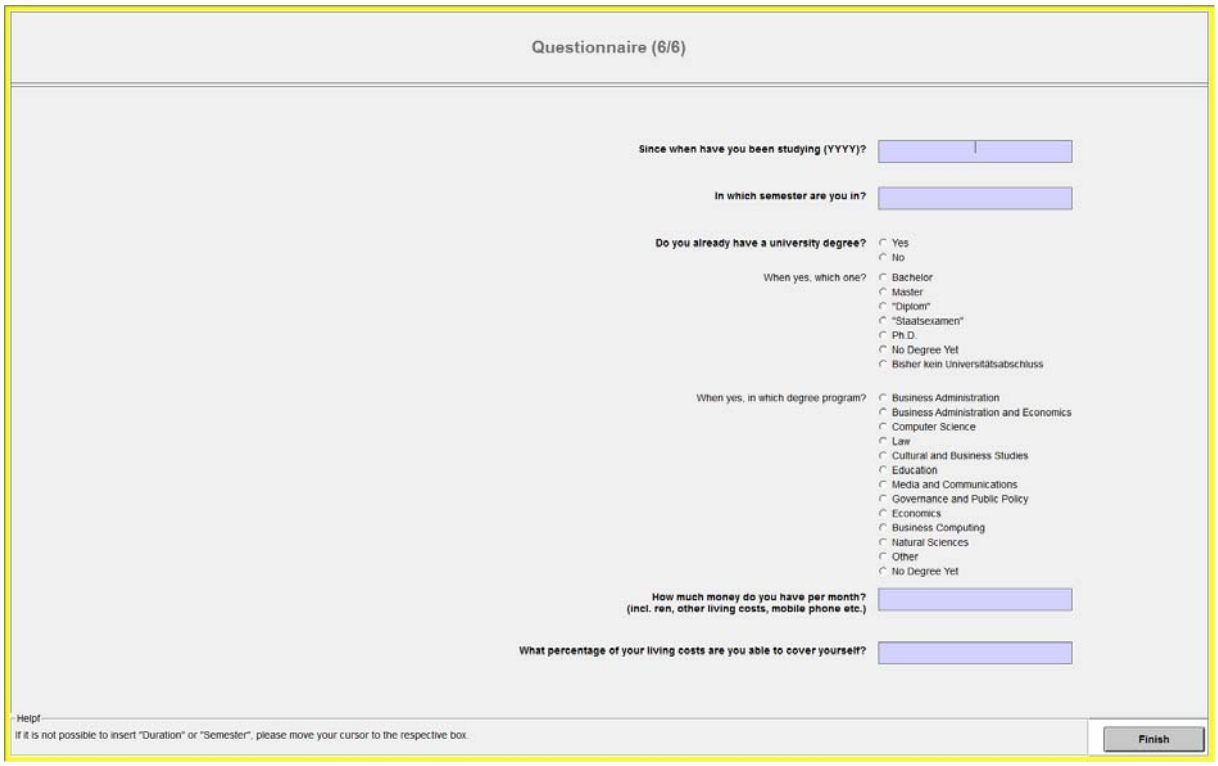
Continue

Questionnaire 4/6

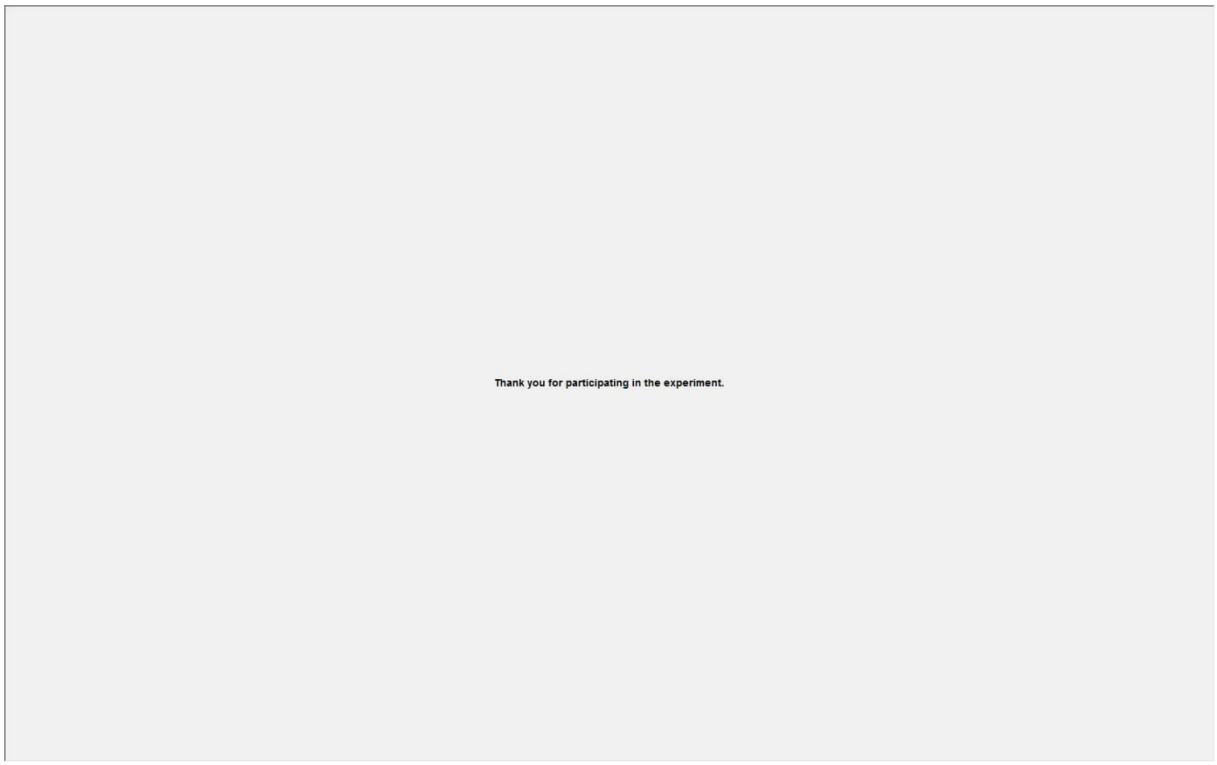


Questionnaire 5/6

Questionnaire 6/6



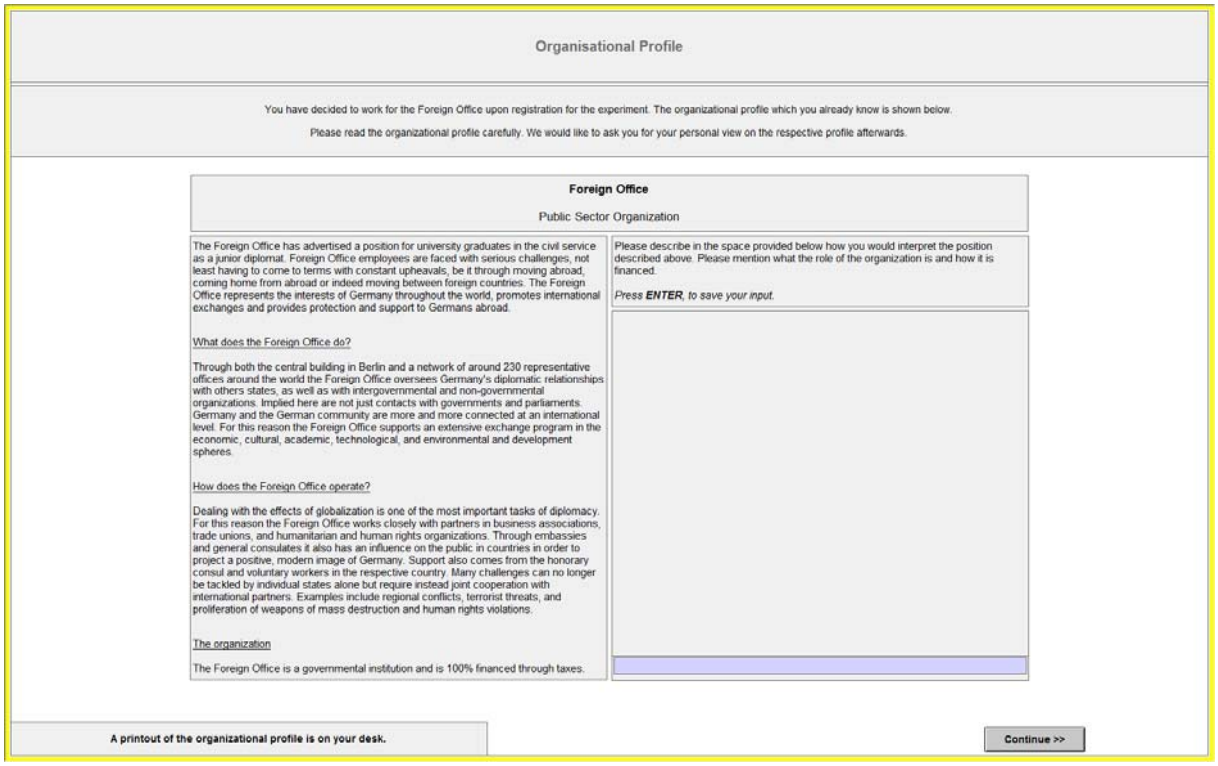
Last Screen



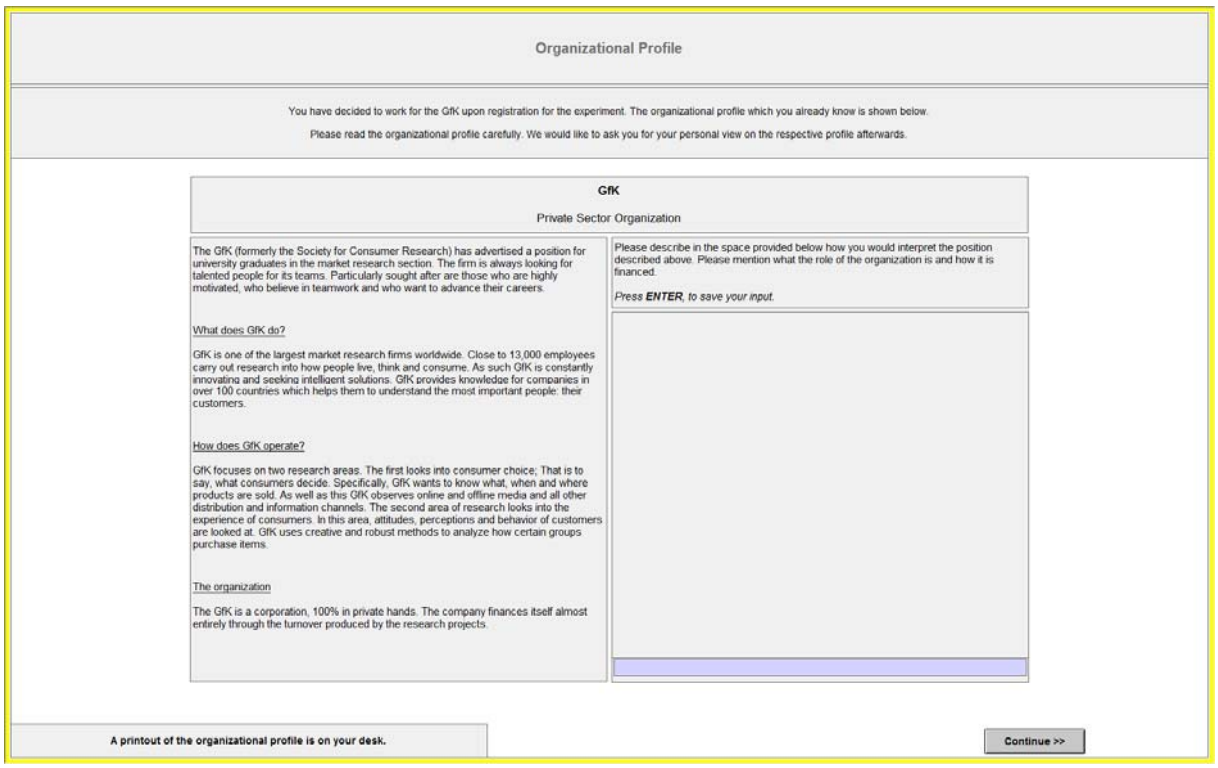
Self-Selection – Treatments 2 to 4

Note: Treatments 2, 3 and 4 differ only concerning the organization's name and profile. The instructions and task characteristics are the same as in treatment 1.

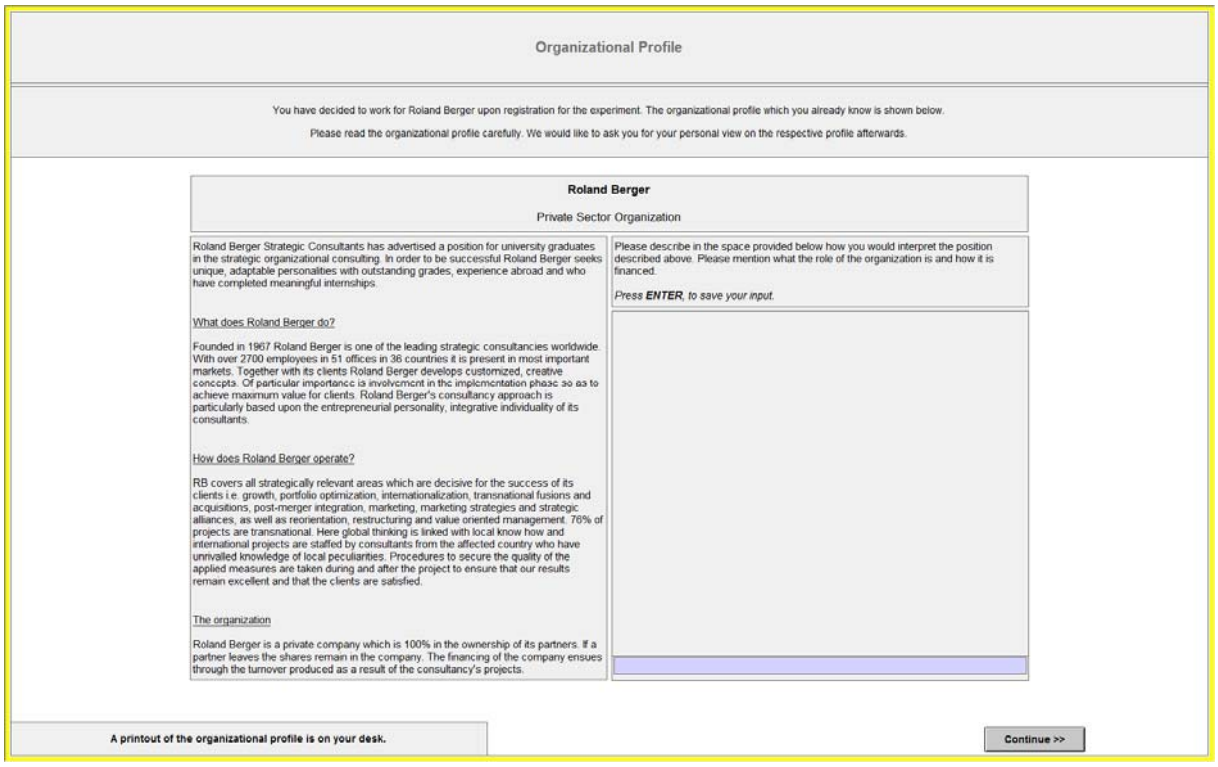
Organizational Profile (Treatment 2)



Organizational Profile (Treatment 3)



Organizational Profile (Treatment 4)



Random Assignment – Treatments 1 to 4

Note: The treatments with random assignment differ only concerning the matching of subjects to organizations. Upon arriving at the laboratory, subjects were both randomly assigned to organizations and working groups. They did not select an organization to work for themselves but were randomly assigned to one. Besides receiving the information on their random assignment to a specific organization, participants in these treatments received the same instructions and tasks as in the self-selection treatments.

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