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Does Meaning Make Teams Work?

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Abstract

Meaning is a major concern of humans and work is no exception. Economics has long considered the work a mere effort-income exchange and underlooked the importance of meaning in work. Although the meaningful work literature gained momentum in the last years, the research focused on the individual outcomes of meaningful work, such as work satisfaction or reservation wage. Today any modern organization relies on teamwork, so identifying the conditions that enhance cooperation is essential. This study addresses the research gap in the literature by assessing the impact of meaningful work on cooperativeness and discusses its components: self and others, job design and job mission. Furthermore, the study hypothesizes that meaningful work enhances cooperation, and proposes an experimental design utilizing the public goods game with a meaningful work treatment using a donation mechanism.

Keywords: Meaningful work; public goods game; cooperation; experimental economics.

> If one wanted to crush and destroy a man entirely, to mete out to him the most terrible punishment ... all one would have to do would be to make him do work that was completely and utterly devoid of usefulness and meaning.
> – *Fyodor Dostoyevsky*
> *The House of the Dead*

1. Introduction

In 2013 anthropologist David Graeber published an article online and addressed *socially useless jobs*. He claimed that in the developed world, many people *spend their entire working lives performing tasks they secretly believe do not really need to be performed* (Graeber, 2013). The article has received such tremendous interest that it was translated into many languages and finally published as a book. Many people contacted the author afterwards to give anecdotal approval to this article. Among those people, there were corporate lawyers, consultants, and students (Heller, 2018). The empirical support for this phenomenon came after: 37% of the polled British people think their job does not make a meaningful contribution to the world (Dahlgreen, 2015). An article from Harvard Business Review stated that *9 Out of 10 People Are Willing to Earn Less Money to Do More-Meaningful Work* (Achor, Reece, Kellerman, & Robichaux, 2018).

Meaning is a major concern of humans and work is no exception. Although work meaningfulness comes in different shapes, the seek for meaning is evident. Economics has long overlooked the meaning of work and considered work a mere effort-income exchange. Nonetheless, the meaningful work literature has gained momentum in recent years. Empirical studies have now addressed the outcomes of meaningful work, such as a decrease in the reservation wage (Ariely, Kamenica, & Prelec, 2008) increase in productivity (Tonin & Vlassopoulos, 2015), and other work-related behaviours like engagement, satisfaction, and commitment (Allan, Batz-Barbarich, Sterling, & Tay, 2019). Those studies primarily have focused on individual outcomes, and the impact of meaningful work on collective outcomes is rarely studied. Today individuals are mainly working as a part of organizations, and they are part of one team, if not many. Hence, their work outcome is the result of collective progress and effort. This study addresses the research gap in the literature by assessing the impact of meaningful work on cooperativeness and hypothesizes that meaningful work enhances cooperation. Furthermore, it proposes an experimental design to test the hypothesis.

To the best of my knowledge, there is no empirical study on the effects of meaningful work on cooperation. Butz and Harbring have used a similar mechanism as an incentive for

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cooperation in their recent paper (Butz & Harbring, 2020). Although they neither focus nor measure the task's meaningfulness, the proposed experiment will use a somewhat similar design to operationalize meaningful work.

The rest of the paper is structured as follows: Chapter 2 presents the review of cooperation and meaningful work literature and hypothesizes that work meaningfulness makes teams more cooperative. In Chapter 3, an experimental design is proposed to test the given hypothesis. Chapter 4 concludes the study with a summary and discusses the potential implications of this study for employers and job seekers. Chapter 5 presents the experiment screens.

2. Literature Review

2.1. Cooperation

Cooperation is the ability behind the most significant achievement of humans. It is the enabler of complex tasks that would not have been achievable via individual work. It is at the heart of civilizations and technological developments. Any modern organization relies on human cooperation and effective teamwork. According to many business managers, it is *at the heart of the modern business processes*, and critical for growth (Cross, Martin, & Weiss, 2006).

Although frequently emphasized and celebrated, teamwork is fragile by its nature, and sustaining cooperation over time is challenging. There is inherently an incentive to free-ride for individuals, whether it is a park in the city, a university group assignment, or a consulting project. In all cases, one can easily contribute remarkably less than others and still enjoy the benefits. Consequently, such a tendency discourages others who have chosen not to free-ride initially, and eventually, cooperation falls well below the optimal.

Cooperation and ways to sustain it has been studied profoundly. The current body of research operationalizes cooperation using the public goods games. In this game, players decide how much to contribute to the shared pool from their private endowment. Individuals' total contribution is then multiplied by a factor and equally redistributed to the players. With the different modifications of this game, many essential aspects of human cooperation have been clarified.

First, the observed behaviour of players systematically deviates from the prediction of the classical economic theory. Instead of acting as profit maximizers, humans act prosocially by contributing to the shared pool. In general, the contribution level is between 40% and 60% in the first round (Chaudhuri, 2011). Although the start is promising, cooperation fails over time. In the repeated games, contribution levels decline in all the participants, and at the last round, the majority of the players choose to free-ride (Chaudhuri, 2011).

Furthermore, the preferences among players are not homogeneous and follow specific types of behaviours. There are conditional cooperators (50%) whose contributions more or less match the group's contribution and free-riders (30%) who show selfish behaviour by continuous zero contribution in all the rounds (Fischbacher, Gächter, & Fehr, 2001). Fischbacher and Gächter showed that previously non-free-rider individuals later act as profit-maximizers, and the contribution level goes *spiral downwards* over time (Fischbacher et al., 2001). The reason is that, first, although not the majority, free-riders are nonnegligible, and they drive the contribution level down. Second, conditional cooperators match the other's contribution imperfectly by showing self-serving bias and contribute a small portion less than the others (Fischbacher et al., 2001). Therefore such mechanisms make free-riding the dominant strategy over time, and the cooperation level declines to the suboptimal level, mostly 0 in the final rounds.

Although cooperation is fragile by its nature, there are treatments proven to be adequate to sustain cooperation. Rewards and punishments are the two main treatments to maintain cooperation in the lab. The punishment treatment, which was initially applied by Fehr & Gächter, where players lose 10% of their payoff for each punishment point they receive from their peers, is proved to be very efficient and replicated many times (Fehr & Gächter, 2000). Although it is costly to the punisher, players prefer punishing. The mechanism is very successful in eliminating free-riding incentives—the opportunity to punish results in convergence to full cooperation over time (Fehr & Gächter, 2000). Furthermore, when individuals can express their disapproval of the non-cooperative behaviour, the cooperation level also increases, although the disapproval does not incur any cost to the receiver (Masclet, Noussair, Tucker, & Villeval, 2003). Such a disapproval behaviour is so compelling that it does not have to result in any monetary consequences and still can be helpful.

Not as commonly applied as punishments in the literature, rewards are also an effective treatment to sustain cooperation. According to a meta-analysis that analyzed the results of 103 public goods games with either punishment or reward, punishments and rewards are *statistically equivalent* treatments, and they are both powerful to enhance cooperation (Balliet, Mulder, & Lange, 2011). Nonetheless, if there is a chance to select, players systematically prefer one over the other. When there is a possibility to reward and punish in the same game, players allocate more tokens to reward in the beginning. However, this pattern alters in the later rounds, and players prefer sanction over reward (Sefton, Shupp, & Walker, 2007). Likewise, when players can select a game with or without the punishment, almost all participants prefer to be in the punishment game in the later rounds, even though the majority (63%) initially preferred a game without sanction (Gürerk, Irlenbusch, & Rockenbach, 2006).

Moreover, the effectiveness of treatments is conditional on the players' social preferences and their homogeneity. In other words, if high contributors are in the same group (exogenous group forming), and they are informed accordingly, groups sustain cooperation with and without the punishment (Gächter & Thöni, 2005). Aligning with that, when individuals can prefer their future groups after seeing others' contribution records (endogenous group forming), formed

groups have superior efficiency than the punishment treatment (Page, Putterman, & Unel, 2005). Hence, the so-called *team spirit* or like-minded teammates is powerful enough, and such groups do not need to be incentivized or controlled by external interferences (Gächter & Thöni, 2005).

Rewards and punishments are straightforward yet effective treatments to sustain cooperations. They eliminate free-rider behaviour and encourage, or force, collaboration. Nonetheless, such external incentives do not necessarily imply prosocial outcomes and higher payoffs. The opportunity to punish free-riders does not guarantee that only the free riders get punished. Individuals do not always punish low contributors altruistically. High contributors, whose contribution is well above average, also get punished. This *anti-social* punishment is prevalent in different societies and varies cross-culturally (Herrmann, Thöni, & Gächter, 2008). Furthermore, when there is an opportunity for counter punishment, not only contributors but also punishers get punished. Therefore, it results in a suboptimal contribution level, which is even lower than the condition with no punishment (Denant-Boemont, Masclet, & Noussair, 2007; Nikiforakis & Normann, 2008). Expectedly, players get punished more the less they contribute than the average. However, there is no such correlation for the reward, meaning players do not receive more rewards when they contribute way higher than the average (Sefton et al., 2007).

Developments and findings from academia are starting points to attain improvements in the real world and drive better decisions to create cooperative environments. Nevertheless, the mentioned treatments come with limitations, and they might result in unintended results.

Questions regarding the outcomes of the before-mentioned external incentives can be extended when the real-life teams are at focus. According to Denant-Boemont et al. (2007), punishment is the most effective when the punishers cannot be identified by the others and therefore are exempt from any counteraction. However, it is unlikely that the punishers stay anonymous in a real-life setting and do not face any consequences. Furthermore, a decentralized punishment mechanism in which peers can punish others is hard to establish and not necessarily desired. Clearly, and well before its optimal conditions, the punishment itself could be very harmful to the organization and individuals. It can create unintended results by influencing individuals' psychology adversely and building an unfavourable company culture.

For rewards, psychologists have an established understanding of its impacts on intrinsic motivation. It is accepted that the external monetary reward undermines the intrinsic motivation substantially, and individuals lose their interest in the task when the reward is revoked (Deci, Koestner, & Ryan, 1999). When an extrinsic motivation, like monetary incentives, is offered with the task, this might affect the individual's self-perception of their abilities to feel incompetent and make the task itself less attractive (Benabou & Tirole, 2003). However, such a mechanism does not necessarily translate to the economic outcome negatively. It depends on the nature of the task and the agents' information. If the incentives are not appropriately designed for the task, they might easily backfire (Kamenica, 2012). Likewise, if the incentive design puts the individual achievement before the collective outcome, it can undermine cooperation instead of supporting it.

In conclusion, human cooperation is indispensable yet fragile. Rewards and punishments enhance cooperation in the lab, but they come with potential risks such as damaged intrinsic motivation and psychological costs. The recent trends clearly show that an increasing number of graduates and employees seek meaning in their careers and decides accordingly. Although identifying what is meant by *meaning* is intricate, addressing this desire could translate into positive work-related behaviours, including cooperation.

2.2. Meaningful Work

Meaning is a major concern of many disciplines. It is prevailing in the literature, often the main focus in philosophy and the greatest concern of religion. Meaning-making is often considered a fundamental activity of humans. People tend to find meanings and patterns within the noise. They can easily narrate from a simple animation of geometric shapes and interpret the interactions (Heider & Simmel, 1944). The Storytelling Animal Book even goes beyond and suggests that people are rather Homo Fictus than Homo Sapiens, pointing to the capacity to sense-making and narrative (Gottschall, 2013). Such a tendency manifests itself in many areas in life, including work.

Although the field is developed under many disciplines, considering meaningful work in economics is relatively new. In the early papers, authors frequently emphasize the lack of attention in the field and describe it as an *unusual neglect* (Karlsson, Loewenstein, & McCafferty, 2004). They list the compelling reasons why economics should care about meaning: As the science of promoting well being with constrained resources, economics should concern meaning because it is *an extremely important determinant of well being* (Karlsson et al., 2004). The relationship between organization and employee is not a mere income and effort exchange. Work is an integral part of the greater meaning in life by being one of the sources (Cassar & Meier, 2018). It often describes what people are (doctor, teacher) (Ariely et al., 2008), and can be a *carrier of identity and reputation* (Henderson & Van den Steen, 2015).

The workforce trends approve the significance of work meaningfulness, especially for the younger generations. According to a recent empirical study, the Millenials (born between 1980 and 1995) have higher expectations of meaningful work than the previous generations (Magni & Manzoni, 2020). Accenture Survey (Mary Lyons, 2017) reported an increasing number of employees to feel underemployed, meaning their skills are underutilized, and they feel unsatisfied. Hence if the employers *want to retain Gen Z*, they should *give them challenging, meaningful work*. Here, meaningful work refers to significant work, the work that one uses her skills thoroughly, and is defined based on the task's characteristics.

Apart from the work characteristics, other approaches suggest a fundamental transformation in business and pro-

pose a new system: *purpose-economy*. The term refers to an economy in the direction of *-Sinnhaftigkeit* in German- the meaningfulness. The initiative promotes sustainable businesses with steward-ownership. In this ownership model, the managing power stays within the company instead of external shareholders, and its profit serves the company's societal purpose by either reinvesting or donating. This ownership model is still for profit as the founders and investors are compensated with dividends. They so far cooperated with 100 startups and committed €250m capital to the companies with this ownership model (*purpose-economy.org*, n.d.). Here, meaningful work refers to prioritizing the mission and the positive social impact.

All in all, the examples from the real world show that the definition of work meaningfulness is remarkably different. Besides, the individual values, social norms, and environment are influential in constructing such a perception. As a result, there is no shared understanding established in academia.

2.3. What Makes Work Meaningful

Many disciplines developed independent perspectives on work meaningfulness. Nonetheless, the body of research lacks integration and a shared understanding of the meaning, sources of the meaning, potential outcomes of experienced meaningfulness at work, and how to measure it (Bailey, Yeoman, Madden, Thompson, & Kerridge, 2019; Rosso, Dekas, & Wrzesniewski, 2010). That being said, meaningful work concepts often overlap and interact. Although the concepts are not entirely independent, they will be reviewed under three main titles: self and others, job design, and job mission.

2.3.1. Self and Others

Individual self-concepts define work meaningfulness and the degree of its importance. Values, motivations, and beliefs of humans influence how meaning is sought and perceived at work (Rosso et al., 2010). Naturally, those beliefs and values are shaped by the social environment. For example, a society might highly value the positive impact of work on the world and professions like teacher or doctor are widely celebrated. Whereas in another society, the work can be seen solely as an income source, and such nonmonetary aspects of work can be disregarded. Therefore, the meaning is about others as much as it is about 'the self' concept (Rosso et al., 2010). As it was put paradoxically, *meaningfulness arises in the context of self-fulfilment and self-actualization, yet it is dependent on the 'others' for its realization* (Bailey, Lips-Wiersma, et al., 2019). There are two ways in which meaningful work interact with *others*. First, having a positive impact on society or creating value for the world are inherently non-selfish and requires others to be realized. Doctors save lives, and they need others to actualize their purpose. Second, each decision made has an impact on identity, and it is in a way an investment in reputation. Having meaningful work signals individual values and preferences. Thus, to some extent, it needs to be perceived by others. Having a job with a positive social aspect is indeed satisfactory for intrinsic motivation. However, one's social environment usually knows her job and can make inferences about her character. Therefore it starts with the *self* and depends on *others*.

2.3.2. Job Design

There is a clear tendency that individuals would like to see that what they make, produce, or deliver is important for the work. In other words, the task's existence should positively contribute to the outcome, and the lack of it should make a difference. In Job Diagnostic Survey, Hackman and Oldham defined *task significance* as one of the drivers for experienced meaningfulness (Hackman & Oldham, 1975). Ariely et al. provided empirical evidence to this model with a field experiment using Legos. After the subject assembles lego, they manipulated the task's meaningfulness by either keeping it or destroying immediately. Although the tasks' economic aspects were identical, the subjects whose work is recognized were more productive, requiring lower reservation wages (Ariely et al., 2008). Another real effort experiment supports this evidence. In this experiment where participants need to enter data, Kosfeld et al. implied high meaning by informing the participants that their work will be used in the research project. The ones in the low meaning conditions are informed that their work is only for quality check and actual usage of their work is unlikely. The participants in the meaningful work condition show 15% higher performance. The meaningful work condition also outperforms the effect of the monetary incentive, which is around 9% (Kosfeld, Neckermann, & Yang, 2017). This empirical evidence clearly shows the importance of work significance on effort.

Psychological conditions are also important drivers of intrinsic motivation and experienced meaningfulness at work. According to the self-determination theory, three psychological needs are to be fulfilled: one should experience autonomy, competence, and relatedness to develop intrinsic motivation (Ryan & Deci, 2000). Autonomy is related to a level of independence and the feel of control. Feeling competent is about one using skills and abilities to accomplish a task. Relatedness is having connections and good interpersonal relationships with others, such as colleagues and managers. In comparison to the task significance, the self-determination theory emphasizes the decision-making conditions rather than the tasks' characteristics. Empirical studies commonly operationalize these psychological conditions to model and measure meaningful work (Cassar & Meier, 2018; Nikolova & Cnossen, 2020). Based on a European working condition survey study, Nikolova and Cnossen showed that 60% of experienced meaningfulness variation could be explained by the pillars of the self-determination theory (autonomy, competence, and relatedness). In contrast, the income and other benefits explain less than a per cent (Nikolova & Cnossen, 2020).

2.3.3. Job Mission

A mission that goes beyond the firm's profit maximization and creates an impact for others is a source of meaning at work (Bailey, Yeoman, et al., 2019; Cassar & Meier, 2018; Rosso et al., 2010). Some occupations inherently imply such an aspect of work, such as the health care workers or public servants. Nevertheless, for many fields, such connection with the work and the greater good is either non-existent or not explicit. In this case, firms can adopt corporate social responsibility practices and form a mission attached to the organization (Cassar & Meier, 2018). They can practice by regular donation, encourage employees to engage by paid volunteering or employ a business model around a social purpose. A famous example is the footwear company TOMS: For each pair of shoes purchased, the company provided a pair for the children in need.

Empirical studies operationalize the job mission by simulating a prosocial mission. The majority of those studies use the effort or the principal-agent games to understand how meaning interacts with effort, performance, wage expectation, and job satisfaction. In their field experiment using MTurk, Chandler et al. framed the meaningful task as *labelling the tumour cells* and achieved higher participation, productivity, and increased work quality (Chandler & Kapelner, 2013). Also, social incentives in the form of donation increase subjects' productivity by 13% overall, and 30% for the initially low performers (Tonin & Vlassopoulos, 2015). In the real effort game, when the piece rate is lower, players produced more when the additional income was donated to a charity (Charness, Cobo-Reyes, & Sánchez, 2016). In the experiment of Fehrler et al., not all but around one-third of the participants choose the work with their preferred mission and show significantly higher effort, although it is more costly to them (Fehrler & Kosfeld, 2014). Similarly, in an online marketplace game, Burbano showed that the high performing participants are willing to give up wage after knowing the employer's social responsibility (Burbano, 2016).

The before-mentioned experimental studies showed that work meaningfulness translates into positive work outcomes, including high productivity, effort, and engagement. When individuals are part of a team, these positive work outcomes should affect their behaviours within the team. Therefore this study conjectures that meaningful work induces higher cooperation as it is the way to express higher effort and motivation as part of a team.

> *Hypothesis: Work meaningfulness induces a higher cooperation level.*

3. Experiment Proposal

In this section, an experiment proposal will be introduced to test the hypothesis mentioned. Cooperation studies use public goods games to research human cooperation in general. In this game, participants are grouped randomly, and they make a collective decision regarding resources allocation. At the beginning of each round, participants receive a private endowment often described in tokens or currency. In each round, participants decide how much to allocate of their private endowment to the shared pool. After each group member decides, the total amount of tokens in the shared pool is calculated and then multiplied by a factor. If each player makes a full contribution, individual payoffs are maximized.

This experiment uses a public goods game with a team size of 4 and a 0.4 marginal per capita return (MPCR) with partner design. The experiment is designed in oTree and suitable to be conducted online (Chen, Schonger, & Wickens, 2016).

At the beginning of the experiment, each participant is randomly assigned to the treatment or the control group. The treatment group (Meaningful Work Treatment) differs from the control group with a donation mechanism. With this mechanism, teams can collect donation based on their cooperativeness level to an organization of their choice.

Each player is assigned to a team of four in both groups and stay anonymous throughout the game. Partner design implies that the same four people decide and contribute to the shared pool.

The experiment utilizes repeated game mechanisms in which the decision situation is repeated for certain rounds. Such design is widespread in the literature and enables the observation of cooperativeness over time. This proposal suggests ten rounds of the decision situation, which are identical.

The experiment consists of the following parts: (1) Welcome Page, (2) Instructions, (3) Meaningful Work Treatment: Donation Mechanism, (4) Manipulation Check, (5) Decision Phase, (6) Results Screens, (7) Work and Meaning Inventory (WAMI) Questionnaire, (8) Demographics Survey. In this section, the experiment parts are described in details. Full screens can be found in Chapter 5.

3.1. Welcome Page

In this part, participants are informed that they are part of an economic experiment and can earn money based on their decisions. It is also mentioned that they are not allowed to communicate with other participants. The duration of the study is also mentioned and calculated as fifteen minutes. This part aims to draw attention to the importance of reading the experiment rules thoroughly.

3.2. Instructions

In this part, the mechanisms are described with details and examples. Instruction text is based on the seminal paper of (Fischbacher et al., 2001). Players receive € 20 as an endowment, and they need to decide regarding the allocation of this resource. They can allocate this to their private account or invest fully or partially in a project. After each member decides, the total amount is multiplied by a factor of 1.6 and equally redistributed.

It is highlighted that the payment from the experiment depends on their payoff. The payoff is calculated as the sum

Treatments	Game
Meaningful Work Treatment	10 Public Goods Game with Donation
Control Group	10 Public Goods Game

Table 1: Treatment and Control Groups

Component	**Statement**
Positive Meaning	I want to have a meaningful career. I want to understand how my work contributes to my life's meaning. I want to have a good sense of what makes my job meaningful. I want to discover work that has a satisfying purpose.
Greater Good Motivations	I don't mind if my work makes no difference to the world. My work should make a positive difference in the world. The work I do should serve a greater purpose.
Meaning-Making through Work	I view the work as contributing to my personal growth. My work should help me better understand myself. My work should help me make sense of the world around me.

Table 2: WAMI Questionnaire and Components

Organization	**Description**
World Wide Fund (WWF)	International non-governmental organization works in the field of wilderness preservation and the reduction of human impact on the environment. Its current work is organized around these six areas: food, climate, freshwater, wildlife, forests, and oceans.
UNICEF	Agency providing humanitarian and developmental aid to children worldwide. Its activities include providing immunizations and disease prevention, administering treatment for children and mothers with HIV, enhancing childhood and maternal nutrition, improving sanitation, promoting education, and providing emergency relief in response to disasters.
Tafel Germany	Non-profit aid organization distributes food that is no longer used in the economic cycle and would otherwise be destroyed to the needy or give it away for a small fee. In Germany, one-third of the needy are children and young people.
UN High Commissioner for Refugees	UN agency mandated to aid and protect refugees, forcibly displaced communities, and stateless people and assist in their voluntary repatriation, local integration, or resettlement to a third country.
Amnesty International	Non-governmental organization focused on human rights. Amnesty draws attention to human rights abuses and campaigns for compliance with international laws and standards. It works to mobilize public opinion to generate pressure on governments where abuse takes place.

Table 3: Organizations with descriptions

of their private account and their earnings from the investment. In addition to the equations, an example is provided to clarify the mechanisms.

$$Earnings = \frac{1}{4}\sum Contribution_i * 1.6 \quad (1)$$

$$Payoff = 20 - Contribution_i + Earnings \quad (2)$$

3.3. Meaningful Work Treatment: Donation Mechanism

Participants in the treatment group see an additional screen in which the donation mechanism is introduced. The experiment operationalizes meaningful work using a donation mechanism to non-governmental organizations (NGOs). Teams are informed that the experimenter would donate to an NGO based on their contribution level. The donation calculated as 40% of the total contribution in that round (Butz & Harbring, 2020).

Five different organizations are introduced: World Wide Fund for Nature (WWF) [1], United Nations International Children's Emergency Fund (UNICEF) [2], Tafel Germany [3], United Nations High Commissioner for Refugees [4], and Amnesty International [5]. For each, a logo and a short description with similar lengths are provided. Provided descriptions can be found in the Table 3.

Participants are required to select one of those organizations to move to the subsequent page. If members in a team prefer different organizations, the total donation amount will be distributed proportionally.

$$Donation = \sum p_i * 0.4 \tag{3}$$

3.4. Manipulation Check

After this introduction, participants answer a question as a manipulation check. Participants are asked to rate the sentence *I think this project is meaningful.*. Through this step, the perceived meaningfulness of the task and the effectiveness of the treatment is measured.

3.5. Decision Phase

After the manipulation check, the game starts. Each player decides how much to allocate from their private endowment to the common pool. After each player decides, they all see the result page. The exact structure repeats for ten rounds.

3.6. Results

Participants see the individual contributions of their team members. They also see the total contribution, total earnings (total contribution x 1.6), individual earnings (total contribution x 0.4) and their payoff, which is the sum of their earnings and private account. Participants in the treatment group also see the amount of donation collected (total contribution x 0.4).

3.7. Work and Meaning Inventory

After ten rounds of the public goods game, participants answer a short questionnaire, Work and Meaning Inventory (Steger, Dik, & Duffy, 2012). This inventory is widespread and used to measure Meaningful Work score based on three components: Positive Meaning, Meaning-making through Work, and Greater Good Motivations. It consists of 10 questions, each addressing one of the components. Originally the questions are formulated in a way to measure the meaningful work score of the current occupation. Since most participants are students potentially and might not work right now or have no work experience, they are reformulated to ask preferences hypothetically. (*I have found a meaningful career.* transferred to *I want to find a meaningful career.*) The complete questionnaire with the relevant components can be found in Table 2.

3.8. Survey

Finally, participants answer a short survey including their birth year, gender, nationality, and total work experience to date in full years.

4. Conclusion

This study hypothesizes that work meaningfulness induces higher cooperation in teams and proposes an experimental design to test this hypothesis.

The cooperation literature has matured, especially in the last 20 years. The dynamics of human cooperation were clarified, and effective treatments to sustain cooperation are available. Although the variety of treatments enriches the literature, the work meaningfulness has not been studied. This study addresses the research gap in the cooperation literature and suggests work meaningfulness as an alternative treatment to maintain cooperation.

Addressing work meaningfulness in cooperation literature is arguably more than bridging the research gap. The workforce is changing so as the preferences. As the younger generations enter the job market, this transformation will be more prevalent. The emerging literature showed that meaningful work encourages employees in many ways and results in positive work-related behaviours: They show higher effort, engagement and become more satisfied with their work. Based on these results, an individual with meaningful work, who is also part of a team, should be more cooperative since this is the primary way to show more effort and engagement.

Suppose the effect of meaningful work on cooperation becomes clear; there are implications for the firms, job seekers, and society. Firms can create a competitive advantage for acquiring talents by offering positions with meaningful work implications, such as paid volunteering. Furthermore, since meaningful work enhances engagement and cooperation, the organization would benefit from better functioning teams. Finally, because meaningful work is often related to the greater good, firms would give back more to society indirectly while addressing this desire for talents.

[1] https://en.wikipedia.org/wiki/World_Wide_Fund_for_Nature
[2] https://en.wikipedia.org/wiki/UNICEF
[3] https://de.wikipedia.org/wiki/Tafel_(Organisation)
[4] https://en.wikipedia.org/wiki/United_Nations_High_Commissioner_for_Refugees
[5] https://en.wikipedia.org/wiki/Amnesty_International

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