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The impact of social norms on the willingness to become an
organ donor in Germany

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Abstract

This study investigates the impact of social norms on the willingness to become an organ donor in Germany, addressing the scarcity of organ donors and the influence of social norms on individual behavior. The research tests three hypotheses to explore the relationships between altruism as a social norm, individual willingness to perform altruistic actions, social recognition, and the ownership of an organ donation card. A comprehensive theoretical framework was developed, combining the effects of social norms on individual behavior with the propensity to engage in altruistic acts such as registering as an organ donor.

The study employs a quantitative approach, utilizing linear and logit regression analyses with a convenience sample of 100 German students and graduates. Key findings reveal no significant relationship between being embedded in an altruistic social environment and owning an organ donation card. However, a significant impact of an altruistic environment on individual willingness to perform altruistic actions was observed, as well as a significant effect of social recognition and in-person events on the willingness to register as an organ donor.

Despite limitations such as a small sample size, convenience sampling, and potential challenges with operationalization, this research contributes to the literature by highlighting the role of social norms in influencing individual behavior. Furthermore, it emphasizes the urgent issue of organ donation scarcity in Germany, offering insights into potential strategies to increase donor registration.

Abstract

Diese Studie untersucht den Einfluss sozialer Normen auf die Bereitschaft, Organspender zu werden, vor dem Hintergrund des Mangels an Organspendern in Deutschland und der nachgewiesenen Wirkung sozialer Normen auf das Verhalten. Die Forschung überprüft drei Hypothesen, um die Beziehungen zwischen Altruismus als sozialer Norm, der individuellen Bereitschaft zu altruistischem Handeln, sozialer Anerkennung und dem Besitz eines Organspendeausweises zu untersuchen. Ein umfassender theoretischer Rahmen wurde entwickelt, der den Einfluss sozialer Normen auf individuelles Verhalten und die Neigung zu uneigennützigem Verhalten, wie der Registrierung als Organspender, kombiniert.

Die Studie verwendet einen quantitativen Ansatz mit linearer und logistischer Regressionsanalyse auf Basis einer Gelegenheitsstichprobe von 100 deutschen Studierenden und AbsolventInnen der Studienbereiche Soziologie, und Wirtschaftswissenschaften bzw. Jura. Die wichtigsten Ergebnisse zeigen, dass es keinen signifikanten Zusammenhang zwischen der Eingebundenheit in ein altruistisches Umfeld und dem Besitz eines Organspendeausweises gibt. Es wurde jedoch ein signifikanter Einfluss eines altruistischen Umfelds auf die individuelle Bereitschaft zu altruistischem Handeln festgestellt, ebenso wie der signifikante Effekt von sozialer Anerkennung auf die Bereitschaft, Normen zu folgen und von persönlichen Veranstaltungen auf die Willigkeit, sich als Organspender registrieren zu lassen.

Trotz Einschränkungen, wie der geringen Stichprobengröße, der Gelegenheitsstichprobe und potenziellen Limitationen durch die Operationalisierung, leistet diese Forschung einen Beitrag zur Literatur, indem sie die Rolle sozialer Normen in Bezug auf altruistisches Verhalten hervorhebt. Darüber hinaus wird das dringende Problem des Mangels an Organspenden in Deutschland thematisiert und bietet Ansätze für mögliche Strategien zur Erhöhung der Spenderregistrierung.

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1. Introduction

Organ donation is crucial for saving lives and restoring body functions through transplantation, often serving as the sole treatment for end-stage organ failure patients. Post-mortem donation involves transplanting organs or tissues from a deceased person to potentially save multiple lives. The two main policies are Opt-in, which requires active consent, and Opt-out, where everyone is presumed a donor unless they decline. While Opt-out policies generally yield higher donation rates, Germany uses an informed Opt-in policy, where individuals must give explicit consent and receive information to make an informed decision. Although this policy has faced criticism and is considered a factor in the country's organ donation shortage, no policy changes can be expected in the near future. Efforts must focus on finding alternative ways to increase registration numbers.

Individual behavior is strongly shaped by social norms, as they influence actions through accepted standards and social sanctions (Hechter & Horne, 2009; Opp, 2015). Opp's framework highlights that widely accepted norms, enforced with sanctions, effectively guide behavior. He attributes this feeling of obligation to the rationality choice theory indicating that individuals weigh the costs and benefits of complying to social norms which often results in adjustments of behavior. Altruistic behaviors, like blood donation, are influenced by perceived social pressure rather than personal conviction, with higher normative support increasing willingness to donate (Foss, 1983; Alessandrini, 2007). Social networks significantly impact behavior and social capital, as individuals are motivated to conform to community norms to enhance their status (Granovetter, 1973). The broader social context and network connections shape these behaviors, emphasizing the importance of social structures in understanding individual actions (Granovetter, 1973).

While existing literature agrees on the impact of social norms on behavior, research on their role in organ donation and their potential to address the shortage in Germany is limited. This study aims to explore whether leveraging social norms and normative pressure could have an impact on organ donation registrations. The underlying assumption is that embeddedness in an altruistic social environment increases the individual willingness to perform altruistic actions and consequently is reflected in an elevated number of registrations.

The research in this thesis seeks to address the following research question:

What is the impact of social norms on the willingness to become an organ donor in Germany?

The following hypotheses will be tested:

H1: Embeddedness in a society with altruism as a social norm increases an individual's willingness to become an organ donor.

H2: Social recognition increases the willingness to follow a social network's norms.

H3: Individuals are more likely to register as organ donors in the course of social events, compared to non-social events.

The research employed a quantitative approach which is an established method to systematically measure attitudes, beliefs, and behaviors across a large sample. The data was collected using an online survey distributed through the author's personal and professional network, and social media. It was analyzed using linear and logit regression techniques. The main finding indicates that altruism as a social norm significantly influences the willingness to perform altruistic actions. Being part of an altruistic society, however, does not necessarily increase an individual's motivation to become an organ donor. This effect was tested both directly and indirectly, with the variable *Individual Willingness to perform Altruistic Actions* acting as a mediator. Additionally, the study revealed that individuals who place a high value on social recognition are more likely to adhere to their network's norms and social (in-person) events have a higher likelihood to motivate individuals to register compared to non-social events. However, the results are limited by the small sample size and its specific characteristics, which restrict the ability to generalize findings to the broader population.

This thesis has been divided into 9 parts including this introduction. After the introduction, a literature review examining the current state of research, and the complex landscape of organ donation is provided. This is followed by chapter 3, the theoretical part surrounding the key aspects of social norms, including the concept of altruism as a social norm and the underlying assumptions for the three hypotheses. Then chapter 4, presenting the research question and the three hypotheses. Chapter 5 is concerned with the methodology of this study, followed by chapter 6 containing the data analysis which includes descriptive and inferential statistics. After that, a summary of the results, the interpretation, and a description of the limitations are provided in chapter 7. Lastly, a summary of the thesis is given in chapter 8, followed by the conclusion in chapter 9.

2. Literature Review

In the face of the persistent challenge of organ scarcity, this literature review explores the multifaceted landscape surrounding organ donation, delving into existing research to analyze the complexities of donor shortages and explores the field of social norms as a potential tool to increase the number of organ donor registrations.

2.1. Organ donation

Organ donation, the process of giving organs or tissues from one person to another for the purpose of transplantation, is a crucial method to save lives and/or restore key functions in the human body (*Transplantation*, 2023). For end-stage organ failure patients it is often the ultimate form of treatment but due to organ shortages all around the world, the waiting for transplants frequently remains in vain. Although different programs and approaches aim to not only reduce the need for these procedures but also seek to increase the number of donors, the scarcity remains universal (Rudge et al., 2012). In order to ensure the optimal distribution of organs available internationally, organ exchange agencies such as Eurotransplant, Scandiatransplant or The South Alliance for Transplantation have been founded (Consumers, Health, Agriculture and Food Executive Agency., 2017).

While the process itself has been successfully established all over the world, there are numerous different systematic approaches and policies. The two main ways for this medical practice are living donation and deceased donation, varying not only in the way of sourcing but also in terms of social and ethical acceptance. In the former, the living donors decide if, when, and who they want to donate their organs to. As transplantation is considered a serious medical procedure, this form is most common among relatives or close friends (Rudge et al., 2012).

Thanks to medical and technological progress however, living donation bears a calculated risk if performed accordingly (Cherry, 2015) and educated correctly about the remaining potential dangers. Nevertheless, it enables the risk of organ black markets and exploitation (Goodwin, 2006). Transplantation from a living donor is only possible for kidneys and parts of the liver (*Organs*, 2023), with there being a larger number of the former which is also the organ with the overall highest demand (*Informationen zur Nierenlebenspende*, 2023).

Deceased or postmortem organ donation is the process of transferring one or more organs/tissues from a deceased person to a person in need. One deceased person can save up to eight people (*Organ Donation*

Statistics - Organdonor.Gov, 2023), with the average being 3.1 per donor (*Statistiken zur Organspende für Deutschland und Europa*, 2023). Generally, patients on organ waiting lists are matched with donated organs based on different factors such as blood type, medical need or time spent on the waiting list. An EU legislation passed in 2010 encourages the organ exchange between members states. Most states engage in cross - border exchange through alliances such as Eurotransplant or bilateral agreements (*International Organ Exchange*, n.d.).

The implementation of the Action Plan on Organ Donation and Transplantation, created by the EU as a supranational organization, has significantly increased the overall number of organ donors by about 20%, resulting in an increase of transplants from 28.000 to 32.000 in the years between 2008 and 2015 (Consumers, Health, Agriculture and Food Executive Agency., 2017). However, the number of patients registered on organ waiting lists throughout Europe three years later exceeded the demand for organs by far. Around 150.000 patients in need were met with only about 34.000 organ transplants. Of these were ~ 21.000 kidney transplants and ~ 8.000 liver transplants from both living and deceased donors with the former accounting for 20% and 2,8% respectively (*Organ Donation and Transplantation*, 2020).

While countries on other continents, such as Japan, have a higher number of living organ donation compared to deceased organ donation (Rudge et al., 2012), the latter is predominant in European countries (Lewis et al., 2021). As the European continent will be the focus of this thesis, the latter method will be discussed further.

2.1.1. Postmortem organ donation

In previous years, Spain has been the leading country in Europe regarding deceased organ donation with a rate of 40.8 donors per million population in 2021. It is followed by Portugal with 29.6 donors per million, Austria was able to record a rate of 20.2, Germany one of 11.1 (*Deceased Organ Donor Rate in Europe 2021*, 2023).

All around the globe, there are several different regulations regarding how and when to become a postmortem donor. By far the most common one in Europe is known as Presumed consent policy or Opt-out policy and is predominant in 25 countries such as Spain, Austria, or France. In this case, it is assumed that individuals are willing to become an organ donor unless they actively opt-out (*Gesetzliche Regelungen der Organspende.*, 2023).

To do so in Austria for instance, an objection to organ donation either in the form of a declaration in writing (carried along) or orally (witnessed by relatives), or through an entry of the opposition in the opposition register has to be made (*Widerspruch gegen die Organspende*, 2023). In some countries, however, relatives play an important role in the donation process. In Spain, the family still has an

ultimate refusal right due to the requirement of a written authorization from the family in order to conduct organ procurement subsequent to death. Consequently, the family ultimately has the power to overrule the consent of the deceased (Delgado et al., 2019; Viñuela-Prieto et al., 2021).

Following the consent or Opt-in policy, organs and/ tissues can only be taken from a deceased person if he or she has consented to organ donation during lifetime. There is no obligation to make this decision, consequently, there will be no transplantation without consent (*Gesetzliche Regelungen der Organspende.*, 2023). While there is no pure consent solution within the Eurotransplant network, which consists of 8 EU countries such as Luxembourg, Germany, Hungary, and Croatia (*Cooperating Saves Lives*, n.d.), there is the so-called extended consent solution. This means that without documentation of a decision made by the deceased person, relatives or representatives are asked to make the decision. The (extended) consent solution can be found in 14 European countries such as Switzerland, Denmark, or Ireland (*Gesetzliche Regelungen der Organspende.*, 2023).

Figure 1 shows the different organ donation policies within Europe. The countries marked in light blue are those having an Opt-out policy in place. Those in orange are the countries with an extended consent solution. Germany is marked in yellow with the so-called decision solution and the counties marked in dark blue use a mixed system, having both elements of an Opt-in and an Opt-out solution.

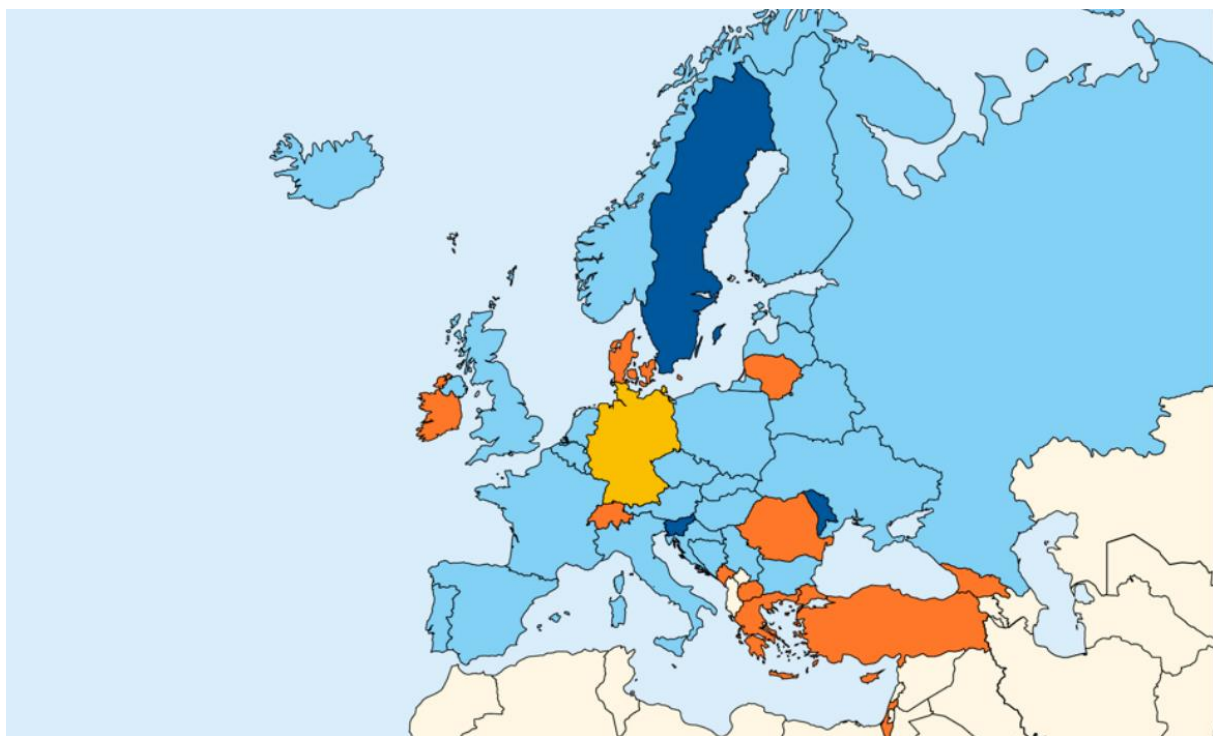


Figure 1: Overview of organ donation policies in Europe

Germany is the only country in Europe that follows a so-called decision solution which is a variation of the (extended) consent solution. Here, the focus is put on providing citizens with neutral information to push them to make a well-informed decision regarding organ donation. Only with the consent of the deceased person, organs and/or tissue may be removed, without this decision, relatives are asked to decide on behalf of the deceased (*Gesetzliche Regelungen der Organspende.*, 2023).

Comparing Opt-out and Opt-in solutions, literature suggests that the former has a positive impact on the organ donation rate (Rithalia et al., 2009; Steffel et al., 2019). The European countries with the highest deceased organ donation rate per million inhabitants in 2021 were Spain (40.8), Portugal (29.6), Croatia (29.5), Belgium (26.9), Czechia (25.0), France (24.7), Italy (24.1), Finland (22.2), Austria (20.2) (*Deceased Organ Donor Rate in Europe 2021*, 2023), all having implemented the Opt-out solution (*Gesetzliche Regelungen der Organspende.*, 2023; *Organ Donation and Transplantation*, 2020).

Presumed content is assumed to be more effective due to the empirical findings that default options are considered “sticky”, meaning that people stick premade decisions (Jachimowicz et al., 2019). This is also why setting certain default options is considered an important technique of nudging, also used by policy makers (Sugden, 2009). In Austria (Gnant et al., 1991), Belgium (Roels et al., 1991; Vanrenterghem et al., 1988), and also Singapore (Low et al., 2006; Soh & Lim, 1992), organ donation rates have been reported increasing after the change of legislation towards a presumed consent system. Especially for countries where individuals have a positive attitude towards organ donation like the United States (U.S. Department of Health and Human Services, 2013), a country that follows the Opt-in solution, it can be argued that defaults would be a suitable support mechanism to help people follow their preferences.

Although the increase of the organ donation rate is often only associated with the policy change alone, it is not the only factor the rise can be attributed to. Supportive measures, where physicians play an important role in the donation process must be considered. Before the policy change 2007 in Belgium, physician now no longer have to take into account the family's opposition (*Donatie post-mortem*, 2016), there was a clear indication of the impact that the surrounding medical staff had on the deceased family. After the change in regulation from an Opt-in to an Opt-out policy in 1986, the staff at the organ-transplantation center in Antwerp was highly opposed to this new law and refrained from the complementary approach to educate the public, and private resulting in an unchanged donation rate. Contrary to this, at Leuven, the new regulation with the education approach was implemented, and over a 3-year period, donation rates increased from 15 to 50 donors per year, showing the importance of education by the medical staff (I. Kennedy et al., 1998).

Another example is Spain, the country with the highest rate of deceased organ donation worldwide. In 1979, it implemented the Opt-out system (with family refusal right) and with it several additional measures such as education programs, hospital reimbursement, and quality improvement. With hospitals

being the source of most of the donors, hospital staff plays a crucial role in the donation process and receives maximum training including donor detection, family approach, cultural understanding, organ allocation, and legal affairs (Matesanz, 2003).

Mostly ICU (intensive-care units) doctors take on the role of the so-called transplant coordinators. As they have been playing a main part of the treatment surrounding a patient, they stand in close contact with the relatives. Resulting from that is a trustful relationship, which is frequently followed by the donation process (Martínez et al., 2001), and considered a major influence factor for Spain having one of the lowest family refusal rates worldwide with about 16% (Domínguez-Gil et al., 2010). Additionally, hospitals that are authorized for organ procurement take part in quality assessment programs and external audits to continuously improve the process (*Effect of Population Aging on the International Organ Donation Rates and the Effectiveness of the Donation Process - ScienceDirect*, 2007). Overall, it can be noted that, especially accompanied by supportive measures, the positive effects of Opt-out solutions are evident.

However, there are also critics that point out that Presumed consent policy is not a one size fits all approach to improve the donation rate. When this solution was first introduced in the Netherlands, many individuals changed their status to non-donor (Krijnen et al., 2018). This can be explained by the feeling of being robbed of their individual freedom through imposition of the government (Friestad & Wright, 1994). Also, opponents of this policy argue that an individual's silence cannot be taken as consent, especially not if there is no notification about the policy nor the possibilities of opposition given once the legal age is reached. So, it is only explicit consent that fulfils the requirement of validity (Veatch & Ross, 2015). Additionally, due to the social pressure to "do good", individuals might feel obliged to obey and not dare to opt-out as it might be socially unacceptable (I. Kennedy et al., 1998). With there being various arguments against this policy in other parts of the world due to different ethical views and cultural backgrounds, it must be noted that whatever policy is being applied in a country, the social and moral context of this community must be put into consideration.

2.2. Organ donation in Germany

As briefly explained above, Germany follows a so-called informed policy. This variation of the Opt-in policy officially came into force in March 2022 and with it a series of changes to the transplantation act. The core of the previous decision solution itself remains unchanged meaning that organ and tissue donation is only possible if the donor has consented during lifetime or a close relative after the demise. The goal of this new solution is to register a personal decision, whether it be consent or opposition to

organ donation and support this act with better education and information as well as regular discussion about the subject. This is planned to be achieved with measures such as an online donor register, anchoring the topic of organ and tissue donation in medical training as well as basic knowledge to be taught in first aid courses, obligatory for obtaining a driver's license. Only after so-called brain death is imminent or presumed to have already occurred, doctors in the hospital decide whether someone is a suitable organ or tissue donor and subsequently will request information from the register for declarations of organ and tissue donation. Should there be no such entry and no other written declaration from the deceased being found, his or her next of kin must be asked whether they know about a declaration. Should this not be the case, the next of kin must be informed by the physician and decide about an organ removal. In this scenario, the presumed will of the potential donor, when making his or her decision must be taken into account (*Bundestag beschließt Entscheidungslösung*, 2022).

In September 2023, this organ donation register has not yet been successfully established (Bundesinstitut für Arzneimittel und Medizinprodukte, n.d.). Consequently, the method from before the change of law is still applied: a haptic card or paper is necessary to declare the willingness to become an organ donor. This declaration can be filled out online and then be downloaded and printed directly or ordered in the format of a credit card. It should then be carried along for medical staff to be found in the case of death or kept in a place known to relatives or friends (*So füllen Sie einen Organspendeausweis aus*, n.d.).

This change in legislation has resulted from the scarcity of transplantable organs in Germany in the past. In 2021, the country recorded only 11.1 donors per million inhabitants, significantly lower than the rate of 20.2 in Austria, a country with similar culture but Opt-out solution (*Deceased Organ Donor Rate in Europe 2021*, 2023). This rate even decreased in 2022 to 10.3 donors per million inhabitants, expressed in absolute numbers, there were only 869 available donors for 8496 patients on the waiting list that year (*Statistiken zur Organspende für Deutschland und Europa*, 2023).

According to a survey conducted by Techniker Krankenkasse in 2022, around 70% of the German population has a positive attitude towards organ donation, however less than 50% own an organ donation card (Techniker Krankenkasse, 2023). While one might argue that this is a gap that could be closed with an Opt-out solution, this policy had been rejected in the German Bundestag in 2020, resulting in the aforementioned information solution. In the vote at which 432 compared to 200 members of the German Bundestag voted for the Opt-in solution, later reformed to informed policy, some of the reasons stated were prevention from too much state intervention, individual's right to self-determination, the idea that a donation must remain a donation, or that charity cannot be demanded by the state (Kosfeld, 2020).

An incident to be mentioned in Germany's organ donation history is the 2011 scandal regarding the manipulation of waiting lists. By false statements to Eurotransplant, a physician at Göttingen University Hospital was alleged to have supplied his own patients preferentially with donor livers. In doing so, the 47-year-old had withheld organs from other patients on the Eurotransplant waiting list, thus knowingly

accepting their possible death. In 2015, the ex-head of Göttingen's transplant surgery has been acquitted. The regional court considered the accusations to be unproven. It could not be confirmed that the false statements to the organ allocation agency Eurotransplant had cost the lives of other patients, the Regional Court found (*Wayback Machine*, 2017). However, this incident resulted in a loss of trust in the German transplantation system. It is suspected to be one of the main reasons for the significant decrease of about 20% in transplant numbers during the EU Action Plan, mentioned above, while other countries increased considerably (Consumers, Health, Agriculture and Food Executive Agency., 2017).

2.3. Approaches to increase the number of donors

2.3.1. Incentivization

With blood being the most used material, there is a growing body of research looking for ways to incentivize people to donate, not only once but multiple times. Studies suggest that incentives have an overall encouraging effect, especially on younger and first-time donors (Sanchez et al., 2001). Among these incentives, health checks such as cholesterol screenings have been especially effective to attract older generations, while donors below the age of 25 have shown to be responding well to gifts or event tickets. Cash compensation has been perceived as rather discouraging same as lottery or raffle tickets (Glynn, S.A., 2003).

Research regarding organ donation and incentives however is limited due to ethical reasons and the incentivization of the registration for a donor card rather unexplored. Studies suggest that financial incentives do not lead to the desired increase in donation, quite the opposite, they might even deter donation from those who would have consented altruistically (Prottas, 1992). Only about 12% out of 6127 individuals of a study reported a higher willingness to become a potential donor (Arnold et al., 2002; *The American Public's Attitudes Toward Organ Donation and Transplantation*, 1993).

In the course of an evaluation regarding financial incentivization for families after the death of a relative, a panel of physician, ethics, organ procurement organization executives and surgeons was created. Financial incentives in the form of an income tax credit, reimbursement for funeral expenses, and a contribution to a charitable organization have been discussed. As criteria for ethical acceptability, the following points among others have been chosen: the concept of the organ as a donated gift, it should honor the deceased, it should serve the public good, and it should not serve as an excessive enticement that diminishes personal values and alters choices. The panel concluded that the tax benefit is a form of direct payment which does not fulfill the necessary criteria. Reimbursement for funeral expenses and contribution to a charitable organization would fulfil the points but only if the amount was not too large to become an excessive inducement. The study shows that it is difficult to draw the line between altruism

and bribe and to find an ethically acceptable financial incentive which can be expected to be the reason why this method has not been implemented (Arnold et al., 2002).

2.3.2. Warm glow effect

The warm glow effect shows that people derive personal satisfaction from giving to others which can lead to seemingly selfless behavior (Dunn et al., 2008), this behavior however is only observed if the stakes are low (Imas, A., 2014). While research suggests that blood donors are motivated by this warm glow (Ferguson E et al., 2012), there is a lack of studies regarding the registration to become an organ donor. One might also argue that compared to blood donation, requesting a donor card lacks an instant reward effect which could be a reason for the lack of emotional advertisements for organ donor registration compared to blood donation.

2.3.3. Information campaigns

As mentioned above, emotional topics such as organ donation, which ultimately is the result of death, must be addressed in a certain way. To achieve desired changes such as an increase in donor registrations policy makers need to address the communication with caution. Especially for countries that follow a consent policy the goal is to draw in as many individuals as possible, which is also the approach Germany is taking with its Informed consent policy. Educating the public to make sure that they are aware of the policy in place applying to them as well as the importance of the overall action is the crucial point (Thomann, 2018).

Literature suggest that this should also be supported by communicating how the donation process is structured to make it more feasible (Kessler & Roth, 2014). Also, minority and ethnic groups need to be addressed, as they might meet the topic with skepticism due to different cultural beliefs (Siminoff & Sturm, 2000). As mentioned previously, since the implementation of the Informed consent policy in early 2022 in Germany, different communication measures have already been implemented. However, statistics show that the number of removed organs from deceased patients has declined from 2.905 in 2021 to 2.662 in 2022, a decrease of 8.4% (*Organspendezahlen sind 2022 gesunken*, 2023). Nevertheless, according to a survey there was an increase in the number of organ donor registrations of about 20% between 2021 and 2022, suggesting a positive impact of the new policy (Techniker Krankenkasse, 2023). Whether or not this change in policy has a significant positive impact on the organ donation rate in Germany will be determined in the upcoming years after all changes have been made, including the implementation of an online registration, a not yet implemented but promising change.

As there is an evident scarcity of organ donors around the world, especially in countries with Opt-in solutions or variations of it and neither an instant change to Opt-out policies nor a sudden rise in registrations can be expected, different approaches need to be explored.

Norm theory supports the assumption that social networks enforce a certain behavior. Especially in societies with an elevated level of social order, meaning cooperation to achieve collective goals, participants tend to avoid behaviors that could be potentially harmful to others and contribute to the collective good (Hechter & Horne, 2009). Norms can be described as informal rules that are socially enforced through rewarding “good” and sanctioning deviating behavior. These sanctions can differ in their degree, with strong sanctions almost enforcing the behavior that a certain norm prescribes and lighter sanctions leading to more gradual behavioral changes (Opp K. D., 2015). This positive or negative assessment of actions consequently leads to certain behaviors within communities and social networks, also dependent on influential factors such as cultural or demographic environment (Horne & Mollborn, 2020).

Despite extensive research on the influence of social norms on behavior, a notable gap exists in understanding how these norms can affect organ donation registration decisions. After giving a general overview about the challenge of organ scarcity, the following chapter will provide a deeper insight into norm theory and how it can potentially influence the willingness to register as an organ donor.

3. Norm Theory

This chapter looks at the key concepts of norm theory, how they emerge, and why individuals comply with norms within rational choice theory. Furthermore, the aspect of altruism as a social norm will be examined to understand its impact on behavior and its potential role in influencing organ donation rates.

3.1. Definition and dimensions

Being a focal point in social sciences, such as sociology or psychology, norms are measured and described in various ways. Different dimensions are used to define norms, George C. Homans, an American sociologist, includes the most common ones in his definition:

“A norm is a statement specifying how a person is, or persons of a particular sort are, expected to behave in given circumstances – expected, in the first instance, by the person that utters the norm. What I expect of you is what you ought to do.” (Homans, 1974)

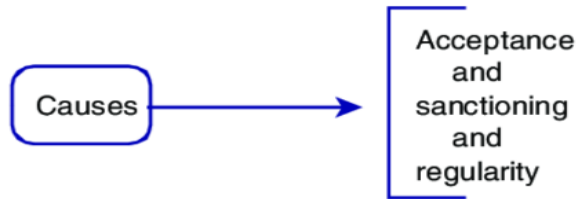
The four elements of the definition he refers to are oughtness, conditionality, behavior, and actors. The first one is frequently used by sociologists, to be found in most norm definitions, and sees norms as expectations of behaviors that ought to or ought not to be executed. Conditionality describes the expectation that, in given scenarios, people are presumed to act in a specific manner. An example for this is the norm “you shall not kill”, which is applicable in most scenarios but would potentially be viewed differently in war scenarios. His understanding of the third dimension indicates that norms relate to behavior (Homans, 1974). This is contrary to Morris’ definition (Morris, 1956) who also refers to attitudes and beliefs, and suggests that one should believe the word of good (belief) or love your family members (attitude). Actors, the fourth of the dimensions used by Homans, are understood as individuals.

Another criterion which is used regularly to define norms is to see them as “generally accepted, sanctioned prescriptions,..” (Morris, 1956) indicating that they need to be shared expectations within a community or group whose deviating or complying behavior is met with sanctions or reward. In this aspect one needs to highlight that normative expectations need not be mistaken for preferences. Even though an individual might not like to be surrounded by smokers, he or she may think that it is allowed to do so.

The behavioral definition requires norms to have behavioral regularity as well as sanctions which are applied with a positive chance in case of deviation of the expected behavior. An example for that is the behavioral regularity of keeping a promise, a norm exists if an individual breaks this promise and is sanctioned with some probability. In this scenario, cost has been imposed on an individual due to deviation. Consequently, if non-smoking is a behavioral regularity and smoking causes some kind of sanction, a non-smoking norm exists. This implies that also refraining from certain actions can be understood as behavioral regularity (Opp, 2015).

This thesis adopts Opp’s approach and key ideas regarding the dimensions of norms. Figure 2 illustrates his understanding of the complex interdependencies between them. Social scientists are interested in exploring when individuals accept normative expectations, and the sanctions associated with them. However, when norms are defined in a complex manner that encompasses different dimensions simultaneously, addressing these questions becomes challenging as presented in the upper part of figure 2. Consequently, Opp argues that it is crucial to look at the different dimensions separately and understand how they are causally related. As shown in the lower part of figure 2, when expectations are shared and further enforced through sanctions, it is highly likely that the prescribed behavior will be enforced and result in behavioral regularity (Opp, 2015).

I. Applying complex definitions



II. Applying simple definitions and explaining the dimensions of norms

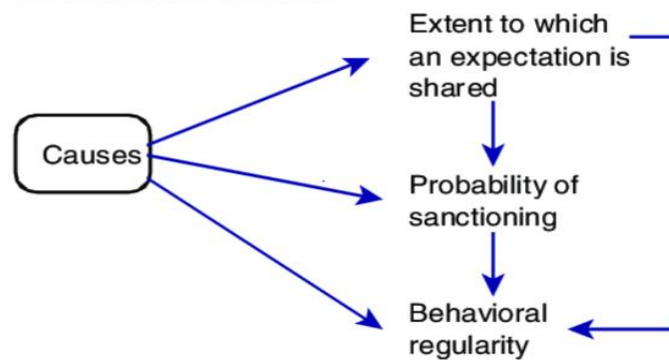


Figure 2: Dimensions (Opp, 2015)

3.2. Rational choice theory and social norms

Rational choice theory can be applied to the concept of social norms. In this aspect, Opp (Opp, 1997) looks at how individual actions in a social context can be explained through a rationality approach. He proposes that individuals follow norms based on rational decision-making and weighing costs and benefits. This means that if breaking a norm is followed by punishment, such as shame or rejection, individuals will be incentivized to comply to gain personal benefits like status or approval. In this sense, social rewards can shape actions in the same way that economic motivations influence market decisions. As an example, people might avoid littering because they want to keep social approval from those around them, not just to avoid fines. In the context of donation, individuals are more likely to participate in their workplace's blood donation activity not because they enjoy giving blood, but because they want to be perceived as a selfless person (Alessandrini, 2007).

The dimensions mentioned in figure 2 can be applied in this context.

Shared expectations are considered the base of social norms as they refer to the collective understanding within a certain group or community regarding what behavior is considered right or wrong. As conformity to shared norms usually results in social acceptance and approval, individuals are very likely to put shared expectations into consideration when making decisions. Additionally, conformity reduces uncertainty in social interactions. This understanding of shared expectation is supported by Bicchieri's perception of a constructivist theory of norms. She refers to the idea that norms are constructed and maintained through shared beliefs and expectations are created through interactions within a social group (Bicchieri, 2005).

The probability of negative consequences refers to the likelihood of facing sanctions for not acting conform to social actions. Individuals are driven to behave in a specific manner to seek positive reinforcement and avoid punishment. This potential risk of sanctions for certain actions plays an important role in following or breaking a norm. When costs of non-compliance rise, adherence to a norm becomes the rational choice. Individuals will avoid sanctions because they result in low social capital meaning weak connections and opportunities within their social network. Social capital is a crucial aspect of social network theory which focuses on understanding the patterns of connections and linkages between people, groups, or organizations within a social system (Liu et al., 2017). Non-conformity within a social network has a negative effect on relationships which is why compliance to norms is necessary to maintain high social capital.

In social networks with shared expectations and cooperation, repeated conformity to social norms then results in consistent patterns of behavior that are considered behavioral regularity.

Opp's approach on rational choice theory and its application on social norms gives a clearer understanding why individuals conform to them and explains the dimensions by showing how actions are based on shared expectations, the risk of sanctions and behavioral regularity (Opp, 2013).

3.3. Altruism as a social norm

Earlier research suggested that there is a universal norm enforcing altruistic behavior. According to Gouldner (1960), this general norm consists of the reciprocity norm and the social responsibility norm. The former means that people should help those who have helped them, and people should assist others with the expectancy that this will be returned. The latter norm promotes helping those who need assistance even without the expectation of payback. This approach is backed up in experimentally arranged work settings by other researchers (Berkowitz & Friedman, 1967; Goranson & Berkowitz, 1966), however more recent findings suggest that the social environment is an important aspect.

According to Foss' (1983) observations, there are large variations in response to blood donation across communities, he proposes that this is due to differences in social environments. He carried out a study that found that rather than personal convictions, it is social pressure that motivates individuals to donate, which shows that perceived norms affect behavior. Different perceived normative support leads to different levels of behavioral support regarding blood donation, meaning that greater degree of normative support influences individuals positively to give blood.

Looking at more recent research regarding motivation for blood donation, it is suggested that it is the desire to maintain belonging to a community, which values altruistic behavior, instead of pure intrinsic motivation (Alessandrini, 2007).

As explained above, non-conformity or violation of community norms can lead to costs such as exclusion, which enforces certain behavior. In the context of altruism as a community norm, it is interesting to look at the influence of social capital on blood donation and organ donation registration.

A study conducted in Canada indicates that individuals engage in blood donation mainly for acceptance and reward of their social networks rather than individual intrinsic altruistic reasons. Social networks enable the formation of social capital through participation in actions that support community values and supports common goals (Granovetter, 1973, 1360-80). Consequently, to enhance their social status within these networks, individuals will act according to network norms. While altruism does have an impact on the motivation to donate blood, the study argues that there is a stronger influence coming from the social context. The study examines the blood donor recruitment activities of the agency managing the Canadian blood system called Canadian Blood Services (CBS). One activity to boost the number of donors was a reward system for companies: Businesses with employees who donate the largest amount of blood were honored with exposure in local newspapers. According to the agency, the program successfully generated a large number of first-time donors and about 50% of the donors interviewed by the researchers stated that the program was an important influence in their decision to do so. Some respondents indicated that it was the impact the program could have on corporate image, a common goal, which motivated them while others stated that they felt peer pressure to donate. The outcome shows that embeddedness in social networks can influence behavior when individuals feel a certain desire or obligation to maintain their social standing within a community important to them (Smith et al., 2011).

Another study conducted in 2013 in the USA, a country that follows an Opt-in policy, looked at the influence of the social network Facebook on the number of organ donor registrations. The platform launched an initiative offering users the label "Organ Donor" for their profile to let their so called "friends" know about their status. As a result, there was an average 21.1-fold increase in registrations on the first day of implementation, and over the course of the following 12 days, the registration rate decreased yet remained elevated compared to the period before the initiative. The study shows the

immediate impact of social media, a form of social network, can have on the registration behavior (Cameron et al., 2013).

Especially in societies with an elevated level of social order, participants tend to avoid behaviors that could potentially be harmful to others and their own standing within the group, and consequently contribute to the collective good (Hechter & Horne, 2009).

Social network theory focuses on understanding the connections and linkages between people, groups, or organizations within a social system. It looks if and how these relationships impact behavior, or information flow. Helping to explain how communities function, embeddedness is a central element within social network theory (Liu et al., 2017; Xin & Kede, 2011). It refers to the extent to which social connections are integrated into the structure of a social network and influences the power of links between actors leading to support and collaboration within a community.

Granovetter (1973, 1360-80) indicates that individuals' behaviors are influenced by the community they are part of. Strong ties are found between emotionally intense relationships such as family and friends and build tight-knit groups leading to connected groups that foster and enrich each other. In societies where altruism is a dominant social guideline, one can assume that individuals are more likely to internalize these values through their interrelations and observations within their networks. When individuals are embedded in communities that prioritize altruistic actions, they are not only more exposed to positive messages about organ donation but may also feel a sense of obligation to conform to these community-supported principles.

This obligation also derives from the awareness of the concept of social capital, the benefits and resources that an individual can access through their social network, if complying to the given social rules. In this sense, high social capital, derived from strong ties, can lead to improved access to information, resources, and opportunities compared to low social capital (Liu et al., 2017).

What actions people perceive as right or wrong consequently depends on the individual community they are embedded in.

Looking at different fields of study environments, as this research is based on university students, literature suggests that econ majors are more likely to exhibit antisocial behavior compared to other social scientists. Both in a controlled environment and the outside world, they tend to show a variety of “debased” moral behavior. Marwell and Ames (1981) conducted research examining the response of participants in a prisoner’s dilemma-type game and the results showed that while most players divided tokens equally between public and private accounts, economists invested 80% in their private accounts. Also, when asked about fair distribution of funds, economists displayed a more selfish view compared to non-economists. This deviated perception of fairness of economists was supported by Carter and Irons (1991) findings that, in an “ultimatum” game, non-economic students split 50/50 with their partners

while econ students offered their partners a smaller sum. Baumann und Rose (2011) reported that economics majors are less generous than other groups and indicate in their study that they are less likely to donate compared to other arts & science majors. Furthermore, looking at the impact of social norms, the study found that the other groups of students became stingier when exposed to economists.

Not only economics but also the field of business is associated with anti-social behavior. Literature indicates that individuals of these fields often exhibit higher levels of Machiavellian traits which are typically linked to self-interest, manipulation and lack of empathy. In both these fields, the competitive nature of their academic and professional environments is assumed to place emphasis on quantitative outcomes and result-oriented thinking (Paulhus & Williams, 2002; Vedel & Thomsen, 2017).

Similar results have been found regarding law students, as research suggests that there is a lack of growth in their moral character. This is largely attributed to the intense competition among them and the use of the Socrates method of teaching which emphasizes competition and fosters a competitive environment (Buckingham, 1996). Some scholars even argue that students of this subject are inevitably forced to change their personality according to the typically dogmatic and emotionally detached image of a serious lawyer (D. Kennedy, 1970).

In contrast to economics, business, and law, the study and teachings of sociology aim to positively contribute to social change and promote social justice. According to studies, they are inherently drawn to the concept of social justice as it aligns with the discipline's core mission of understanding and addressing social inequalities. Their research contributes valuable insights, aiming to create more inclusive and equitable societies by addressing power imbalances and promoting fair resource distribution. (Alexander, 2005; Brown et al., 2016; Romero, 2020). Consequently, this thesis will assume that sociologists are more likely to be embedded in a community that values altruism and the effect of social norms will be more positive compared to economy, business, or law majors.

4. Research Question and Hypotheses

The effect of social norms on individual behavior has been observed and analyzed by social scientists in various areas (Hechter & Horne, 2009; Homans, 1974; Opp, 2015). According to Opp's visualization of the dimensions of norms (see bottom of Figure 1), there is a causal relationship between them, meaning if norms are widely shared and accompanied by robust sanctions, there is a greater likelihood of individuals engaging in the behavior dictated by the norm. In the light of the scarcity of organ donors around the world, this thesis aims to explore the impact of social norms on registration behavior.

Regarding altruistic actions, Foss (1983) shows that rather than personal convictions, it is a form of collective action and consequently social pressure that enforces altruistic behavior. Perceived norms affect behavior which is observable in the altruistic action of blood donation where a higher level of normative endorsement has a beneficial effect on motivating individuals to donate blood. As assessments of the influence of social capital and social norms in the context of organ registration behavior are scarce, combining the literature on social norms with the challenges in obtaining sufficient organ donor registrations will allow this thesis to tap into this gap guided by the following research question:

What is the impact of social norms on the willingness to become an organ donor in Germany?

Opp proposes that the different dimensions of norms are causally related in the sense that expectations are usually shared within a social network and if enforced through sanctions, will result in behavioral regularity.

In the context of organ donation registration, one can assume the following: if individuals are embedded in a social environment that values altruism, they will act according to these shared expectations which results in altruistic actions.

This is supported by Foss' understanding of altruistic actions indicating that they derive from social pressure and a form of collective action rather than personal convictions.

Studies conducted around the topic of tissue donations agree with these assumptions and show that perceived norms affect behavior, and a higher level of normative endorsement has a positive impact on motivating individuals to donate blood.

Consequently, the following superordinated hypothesis seems plausible:

H1: Embeddedness in a society with altruism as a social norm increases an individual's willingness to become an organ donor.

This hypothesis assumes that if individuals want to stay within a social network, they will act according to this environment's norms to ensure acceptance and belonging and benefit from social capital.

This thesis looks at a social environment that is composed of friends, family, and acquaintances. According to Granovetter (1973, 1360-80), especially the first two groups can be seen as so-called strong

ties which he explains as relationships with close, emotionally strong and frequent interactions. The expectation of this thesis consequently is that an individual's strong ties consist of the group mentioned and that he/she has an incentive to contribute positively to this social environment's collective understanding.

The outcome of the two studies mentioned above on donation and registration activity in Canada and the US shows that embeddedness in social networks has an impact on the actions of individuals. It also indicates that what is considered right or wrong depends on the specific community. Consequently, whether people feel obligated to act in a selfless manner depends on if this is an important characteristic of their environment or not. To determine the impact of a social network that values altruism on individual behavior, the survey of this thesis will be distributed into two groups of people. Group 1, which research suggests exhibits anti-social behavior: econ, business, and law majors (Bauman & Rose, 2011; Buckingham, 1996; Marwell & Ames, 1981; Paulhus & Williams, 2002; Vedel & Thomsen, 2017), and Group 2 consists of sociologists who are associated with pro-social behavior (Alexander, 2005; Brown et al., 2016; Romero, 2020). The assumption is that there is an observable difference between the two with the assumption that the former shows a lower willingness to perform altruistic actions and is less likely to register as an organ donor.

Additionally, to complement H1, two more hypotheses will be tested to examine the impact of social recognition. To extend the assumption that people follow norms due to rational evaluation of costs and benefits of their actions within their social network, H2 aims further explore the impact of social recognition on the two groups. The importance participants place on being liked by their environment, their willingness to adjust their behavior accordingly, and if they have done so in the past. The assumption is that people want to maintain or improve their standing and obey to norms.

H2: Social recognition increases the willingness to follow a social network's norms.

These hypotheses draw from related research suggesting that behavior such as consumption patterns, both on a group and an individual level, are influenced as well as lifestyle (Hammersley et al., 2001) choices and violent behavior (Barry, 2008). Furthermore, in accordance with Opp's perspective on social norms and rationality, Bicchieri (Bicchieri, 2005) discusses the incentive of social recognition. According to her understanding, individuals act according to norms because of their desire for peer approval. If compliance with a social network's norm leads to acceptance and social reward, ideally long-term benefits, individuals will do so. This, again, is determined by rational decision-making and comparing the costs (sanctions) and benefits of an action.

When the community monitors its members and especially if group targets are dependent on the actions of individuals, norms have a stronger effect on behavior (Hechter, 1987). This has also been observed in the context of social media networks, where individuals are met with so-called “reactions” to their postings and them being observable by one’s whole community leading to adaptation of behavior (Cameron et al., 2013).

Lastly, Hypothesis 3 deepens the research on the aspect of social recognition further and looks at how direct interactions with peers affect the willingness to register as an organ donor in contrast to those that do not involve in-person contact. As direct contact between individuals inevitably provokes some sort of reaction, the assumption is that the results show a significant difference between the two situations.

H3: Individuals are more likely to register as organ donors in the course of social events, compared to non-social events.

5. Methodology

In the following chapter, the methodological framework employed to address the research question and hypotheses will be described and the data collection process will be detailed.

5.1. Research Design

Following the approach of relevant studies in the field of norm theory, such as Bicchieri’s techniques (Bicchieri, 2016), a quantitative methodology has been applied to answer the research question. She suggests the usage of direct questions about “What would happen if” an individual within a social network behaves a certain way, or visualizing situations where individuals behave in a problematic way from a normative point of view. By evaluating different situations in terms of the feeling of obligation to act in a specific manner, the effect of different dimensions on the normative judgement can be explored. The survey was distributed in Germany among business, law, and economics students/graduates, forming group 1, and sociology students/graduates as group 2. As mentioned above, the latter group is expected to show stronger altruistic behavior compared to the former. The hypotheses are designed based on existing theories and tested using collected data and the study can be considered a deductive research project (Döring, 2023).

5.2. Data Collection

The data was collected by distributing a structured online survey with 25 closed questions (4 of them demographic questions) which is attached in the appendix of this thesis. After presenting an introductory text, the survey participant is asked to answer the questions grouped into different topics. Negatively framed statements have also been included in response sets. The tested variables are *Altruism as a Social Norm*, *Individual Willingness to perform Altruistic Actions*, *Impact of Social Recognition*, *Willingness to follow a Network's Norm*, *Effect of social events on Registration Behavior*. The questions of this survey are based on existing literature and adapted to the subject of altruism regarding donations and will be described further in the following:

The introductory text is kept rather short with little information to prevent the participant from being influenced beforehand. The only information given is that the subject of the survey revolves around perceptions and attitudes regarding various societal domains and general information on data protection.

The first group of questions aims to explore the participants' willingness to perform altruistic actions. Three of these questions revolve around the definition of altruism in terms of performing acts of service without receiving something in return such as "I find it important to help others, even if it requires effort or money". The last two questions mention the subject of blood donation and owning an organ donation card.

The second group of questions targets the impact of social desirability/recognition on the behavior of the participant to explore whether he/she acts according to the social network's norms or not. The questions are posed as attitudinal statements such as "I am willing to change my behavior in order to be liked by my family/friends/acquaintances" with two displaying specific situations such as "You are out with your colleagues and about to cross the street. The light is red, but they are crossing. How would you react?" The question is to be answered using a Likert scale as well. This set targets H2: *Social recognition increases the willingness to follow a social network's norms*.

The third group of questions tailors to H3: *Individuals are more likely to register as organ donors in the course of social events, compared to non-social events* and aims to explore the impact of directly being exposed to a social network. It consists of 4 questions such as "In the waiting room of your doctor's office, there is a brochure that informs about the shortage of organ donors and encourages you to register" compared to "In a lecture of your elective course in sociology, attention is drawn to the shortage of organ donors, and you are encouraged to register as an organ donor on the spot."

The fourth set of questions is about the individual's social network's view on altruism. This is to target H1: *Embeddedness in a society with altruism as a social norm increases an individual's willingness to become an organ donor*. The questions target a possible correlation between the social network and the

individual altruistic behavior displayed in the first set of questions. Questions such as “My family/friends/acquaintances find it important to help one another” are used.

The last part of the survey consists of demographic questions focusing on the nationality and the place of residence as well as the study major. As a last question, the respondent is asked whether he/she is registered as an organ donor or not. This question is strategically placed last to ensure that the respondent answers the questions without knowing the main intent behind the survey and avoid social desirability.

19 out of 25 questions were to be answered with a five-point, unipolar Likert Scale with the lowest category placed on the left and the highest placed on the right. All answer possibilities were fully verbalized with a “moderately” expressing indifference being in the middle (Menold & Bogner, 2015). Apart from the 4 demographic questions, 1 remaining question was the yes/no questions “I am registered as an organ donor”. Those questions aim at exploring the influence of the social network, allowing the respondent to distinguish between the groups of family, friends and acquaintances to differentiate.

The questionnaire had been created using SoSci Survey and distributed passively through the author’s personal network and via the social media platform Facebook in the month of March 2024.

5.3. Sample

The thesis aims to explore the impact of social norms on the willingness to become an organ donor and compares two groups of students as mentioned above with the goal of achieving 50 participants each. Group 1: associated with self-centered/egoistic behavior and Group 2: associated with altruistic/prosocial behavior (Alexander, 2005; Bauman & Rose, 2011; Brown et al., 2016; Carter & Irons, 1991; Romero, 2020). 146 participants have completed the survey, after excluding 36 participants based on the criteria German residency, German nationality, relevant studies as well as removing those with unplausible data (such as inconsistencies, processing time, or false codes), 49 participants for group 1 and 51 participants for group 2 remained for the study. While about 50 participants per group are sufficient for a robust coefficient estimation, the sample size is considered rather small and no indication regarding the overall German population or graduate group can be made (Stoetzer, 2017)

Group 1 consists of 49 participants, of which 36 are business students/graduates, 5 economics students/graduates, and 8 law students/graduates. Out of the 49 individuals, ~71% are females, ~26% males, and ~2% diverse. The great majority of the respondents are between 24 and 34 years old (~65%), 26% are between 18 and 23 years old, and ~8% aged between 35 and 38 years old. About 53% of group 1 have answered the question “I own an organ donation card” with “no”.

Group 2 consists of 51 participants, all of which are sociology students/graduates and ~80% female and ~16% male, as well as ~4% diverse. The majority (~74%) of the respondents are aged between 24 and 34, ~18% are between 35 and 38 years old, only about 7% are aged between 18 and 13 years. In group 2, ~67% of the participants are organ donation card holders.

6. Analysis

In the upcoming chapter, the data will be analyzed in depth. After explaining the scales and variables, the data will be characterized before being subjected to the linear and logistic regression methods of analysis.

6.1. Variables and Scales

In order to execute the data analysis and measure the survey participant's attitude, an average of the items used has to be computed (Braunecker, 2021). Also, family/friends/acquaintances have been condensed into one group to get the umbrella term *social environment*. Using a five-point Likert scale, the items, apart from 5 questions as mentioned above, have been ranked from 1 (most negative) to 5 (most positive) with 3 indicating indifference.

Altruism as a Social Norm is the independent variable in H1. It was measured as the average of 2 items and captures the degree to which the participants' social environment values altruism. The higher the value indicated by the participants and consequently the average, the more altruism is valued in the society. Cronbach's alpha was used to compute internal consistency, the value of 0.86 indicates good internal consistency for this set of questions.

Individual Willingness to perform Altruistic Actions is the dependent and independent variable in the mediation model of H1 and was measured by 2 items. It evaluates the individuals' intrinsic motivation to perform altruistic actions. Again, the higher the average value, the more the participants fulfill this aspect. The Cronbach's alpha value of 0.71 reports acceptable internal consistency.

Impact of Social Recognition measures the obligation an individual feels to obey their societal rules and is the independent variable in H2. It was measured by 3 items and reports a Cronbach's alpha of 0.71 indicating acceptable internal consistency. The higher the average value indicated by the participants, the more the participants value approval of their social environment.

Willingness to follow a Network's Norm is the dependent variable of H2 and it measured by 3 items, reporting a Cronbach's alpha of 0.61 indicating low internal consistency. The higher the value indicated by the participants, the more the individual is willing to submit to their network's societal pressure.

Effect of social events on Registration Behavior is the variable in H3 and was measured using 4 items. These report a Cronbach's alpha of 0.92. The higher the value indicated by the participants, the higher the higher the impact of direct in-person contact.

Organ donor is dependent variable of H1 in the mediation model and was measured with a single yes/no question indicating if a participant is an organ card holder or not.

6.2. Descriptive Statistics

In order to improve the comprehension of the data, the variables utilized in the model will be examined descriptively in the following section. Also, a detailed frequency analysis of each variable will be performed as well as the correlations between the analyzed variables. The analysis will be performed for the two groups to display possible differences in the results.

Group 1: Anti-Social Behavior (Econ, Business, and Law majors)

Table 1 gives an overview of the described data, while Table 1 shows whether there is a correlation between the variables or not.

Table 1: Descriptive Statistics of Variables for Group 1- Anti-Social behavior

	N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation	Skewness Statistic
Altruism Social Norm	49	3	2	5	3.85	0.663	-0.494
Individual Willingness	49	3	2	5	4.00	0.784	-0.874
Social Recognition	49	3	2	5	3.21	0.570	0.510
Network Norm	49	3	2	5	3.64	0.650	-0.229
Social Event	49	4	1	5	3.71	1.176	-0.056

The variable *Altruism as a Social Norm* ranges from 2 (rather not) to 5 (very strongly) with a mean of 3.85 indicating a social environment that is rather altruistic. The standard deviation is 0.663 (low to moderate variability) and the skewness is -0.494 (distribution is left-skewed). This shows that the data is concentrated towards higher values and the mean is distorted to the left.

Individual Willingness to perform Altruistic Actions, the variable testing an individual's motivation towards altruistic behavior shows a mean of 4.0 and a range from 2 (rather not) to 5 (very strongly). The standard deviation is 0.784 and the skewness is -0.874. This shows that the participants are rather altruistically motivated with low to moderate variability and a negative skew of the dataset.

The third variable *Social Recognition* shows to what degree the participants feel pressured to adapt their behavior to their social environment with a mean of 3.21 indicating moderate perceived pressure. The standard deviation is low to moderate with a value of 0.570 and the skewness is positive with 0.510 meaning the data is more concentrated towards the lower values with a few higher values extending the tail on the right.

The variable *Network Norm* evaluates whether the participants would obey to a network's norms and ranges from 2 (rather not) to 5 (very strongly) with a mean of 3.64. This shows that the participants of group 1 tend to obey these rules. The standard deviation is 0.650 and the skewness is -0.229.

The fifth variable *Social Event* explores if the participants are influenced by social events in their decision to register as organ donors. The mean of 3.17 indicates moderate impact. The standard deviation of 1.176 shows a relatively high spread of the data around the mean. The skewness of 0.056 shows normal distribution.

Table 2: Pearson Correlation of Variables for Group 1- Anti-Social Behavior

		Altruism Social Norm	Individual Willingness	Social Recognition	Network Norm	Social Event
Altruism Social Norm	Pearson Correlation	1	0.094	0.140	0.263	-0.143
	Sig. (2- tailed)		0.522	0.336	0.068	0.327
Individual Willingness	Pearson Correlation	0.94	1	-0.220	0.053	0.333*
	Sig. (2- tailed)	0.522		0.128	0.717	0.019
Social Recognition	Pearson Correlation	0.140	-0.220	1	0.464**	-0.036
	Sig. (2- tailed)	0.336	0.128		<0.001	0.808
Network Norm	Pearson Correlation	0.263	0.053	0.464**	1	0.166

	Sig. (2-tailed)	0.68	0.717	<0.001		0.255
Social Event	Pearson Correlation	-0.143	0.333*	-0.036	0.166	1
	Sig. (2-tailed)	0.327	0.019	0.808	0.255	

Table 4: *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$

With a Pearson correlation coefficient of $r=0.094$ and a significance level (p-value) of 0.522 the analysis indicates a very weak linear relationship between the independent variable, *Altruism as a Social Norm*, and the dependent variable, *Individual Willingness*. Given the weak correlation, it cannot be asserted that a more altruistically motivated social environment in Group 1 leads to an increased individual willingness to perform altruistic actions. Additionally, the correlation is not statistically significant, suggesting that any observed relationship is likely due to random variation rather than a true association.

The Pearson correlation coefficient between independent variable *Social Recognition* and the dependent variable *Network Norm* is 0.464 and the significance level is <0.001 . This indicates a statistically significant moderate positive correlation between the two variables and implies that the more important social recognition for individuals of Group 1 is, the more they are willing to follow their network's norms. This correlation is statistically significant.

In addition, there is a statistically significant slight positive correlation of $r=0.333$ between the variables *Individual Willingness* and *Social Events*. As this correlation is significant at the 0.05 level, if one variable increases, the other variable also tends to increase.

Group 2: Pro-Social Behavior (Sociology majors)

Table 3 gives an overview of the described data, while Table 4 shows whether there is a correlation between the variables or not.

Table 3: Descriptive Statistics of Variables for Group 2 - Pro-Social Behavior

	N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation	Skewness Statistic
Altruism Social Norm	51	2	3	5	3.85	0.677	0.103
Individual Willingness	51	3	2	5	3.80	0.769	-0.538
Social Recognition	51	3	2	5	3.17	0.681	0.312
Network Norm	51	3	2	5	3.55	0.646	-0.266
Social Event	51	4	1	5	2.84	1.162	0.031

The variable *Altruism as a Social Norm* has a range between 3 (moderately) and 5 (very strongly) and a mean of 3.85. This indicates that the social network of Group 2 shows a tendency to be motivated altruistically. With a standard deviation of 0.677 (moderate variability) and a skewness of 0.103 meaning the distribution is nearly symmetric.

The second variable *Individual Willingness to perform Altruistic Actions* ranges from 2 (rather not) to 5 (very strongly) and shows a mean of 3.8. This shows that the individuals in Group 2 tend to perform altruistic actions. The standard deviation is 0.769 (moderate variability) and the skewness is -0.538 which indicates a slightly left-skewed distribution.

According to the data, *Social Recognition* is moderately important for the second group with a mean of 3.2, indicating social recognition is moderately important for this group. The results range from 2 (rather not) to 5 (very strongly). The standard deviation is 0.681 (moderate variability) and the skewness is 0.312 indicating a slightly right-skewed distribution.

For the variable *Network Norms*, the data shows a minimum of 2 (rather not) and a maximum of 5 (very strongly) with a mean of 3.55 indicating that the group has a slight tendency to follow a network's norms. The standard deviation is 0.646 (moderate variability) and the skewness is -0.266 showing a slightly left-skewed distribution.

The data shows that the influence of *Social Events* on Group 2 is rather diverse ranging from 1 (not at all) to 5 (very strongly). The mean shows 2.84 and indicates a moderate effect. The standard deviation is 1.162 (high variability) and the skewness is 0.031. This means that there is a wide spread of values around the mean, but the distribution is nearly symmetric (data almost evenly distributed on both sides of the mean).

Table 4: Pearson Correlation of Variables for Group 2 – Pro-Social Behavior

		Altruism Social Norm	Individual Willingness	Social Recognition	Network Norm	Social Event
Altruism Social Norm	Pearson Correlation	1	0.0459**	0.0495**	0.487**	0.496**
	Sig. (2- tailed)		<0.001	<0.001	<0.001	<0.001
Individual Willingness	Pearson Correlation	0.459**	1	0.129	0.223	0.381**
	Sig. (2- tailed)	<0.001		0.367	0.116	0.006
Social Recognition	Pearson Correlation	0.495**	0.129	1	0.561**	0.399**
	Sig. (2- tailed)	-0.001	0.367		<0.001	0.004
Network Norm	Pearson Correlation	0.487**	0.223	0.561**	1	0.299*
	Sig. (2- tailed)	<0.001	0.116	<0.001		0.033
Social Event	Pearson Correlation	0.496**	0.381**	0.399**	0.299*	1
	Sig. (2- tailed)	<0.001	0.006	0.004	0.033	

Table 4: *. $p < 0.05$, **. $p < 0.01$, ***. $p < 0.001$

With a Pearson correlation coefficient $r=0.459$ and the significance level of $p<0.001$ there is a statistically significant moderate positive relation between the independent variable *Altruism as a Social Norm* and the dependent variable *Individual Willingness*. This means that the more altruistically motivated the social environment, the higher the individual willingness to perform altruistic actions.

The Pearson correlation coefficient of the independent variable *Social recognition* and the dependent variable *Network Norm* of $r=0.561$ shows a moderate positive correlation between the two which is, with $p<0.001$ is statistically significant. This means that the higher social recognition is for the individual, the more he/she is inclined to follow a network's norms.

There is also an interesting statistically significant moderate positive correlation between *Altruism as a Social Norm* and *Social Recognition* ($r=0.049$) and *Altruism as a Social Norm* and *Network Norms* ($p=0.001$). This indicates that in Group 2 the social environment plays a crucial role in the behavior of the individuals.

6.3. Regression Analysis

The hypotheses will be tested by using linear and logistic regression analysis which seems suitable because it explains the effect of the independent variable on the dependent variable.

For Hypothesis 1, a mediation model was used to assess whether altruism as a social norm affects the willingness to become an organ donor indirectly by influencing an individual's motivation to engage in altruistic behavior. The indirect effect was analyzed by two models. Model 1 examines if altruism as a social norm increases the willingness to perform altruistic actions using linear regression. This model is appropriate because the dependent variable (*Individual Willingness*) as well as the independent variable (*Altruism as a Social Norm*) are both metric (continuous). For Model 2, logistic regression has been applied to find out if a higher willingness to perform altruistic actions increases the likelihood of becoming an organ donor. Here, the dependent variable (*Organ Donor*) is binary (dichotomous) meaning the outcome has the two possible categories yes/no while the independent variable (*Individual Willingness*) is metric.

To find out for hypothesis 2 whether or not there is a correlation between *Social Recognition* and *Network Norm* (both metric variables), a linear regression model has been applied.

To determine if individuals are more likely to register as organ donors in the course of social events compared to non-social events (hypothesis 3), a paired t-test for dependent groups has been used. This is a suitable method because it compares the means of the two dependent groups and examines if there is a significant difference between the means.

6.3.1. Hypothesis 1

H1: Embeddedness in a society with altruism as a social norm increases an individual's willingness to become an organ donor.

A mediation model has been applied to determine whether altruism as a social norm influences the willingness to become an organ donor indirectly through its impact on the individual's willingness to perform altruistic actions. Figure 3 illustrates this model which describes the following relationships: Path A demonstrates the connection between the independent variable (Altruism Social Norm) and the mediator variable (Individual Willingness) to determine if there is an influence of an altruistic environment on the individual willingness to perform altruistic actions. Path B shows the connection

between the mediator variable (Individual Willingness) and the dependent variable (Organ donor) to find out if an individual that is willing to perform selfless action has an increased likelihood of being an organ donor. Path C shows the total indirect effect of the independent variable Altruism Social Norm on the dependent variable Organ donor through the mediator Individual Willingness. With path C' the direct effect of the independent variable on the dependent variable is demonstrated.

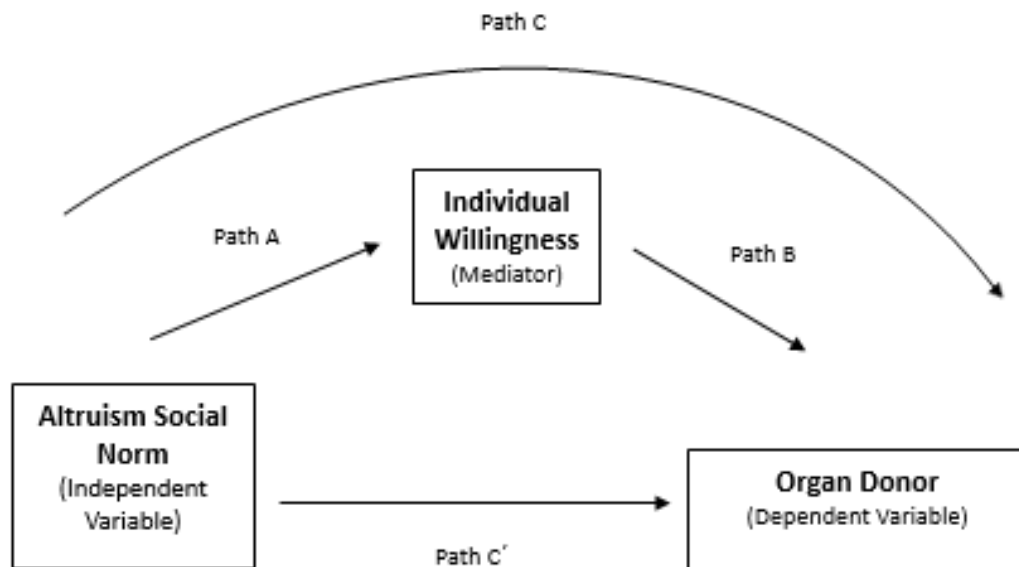


Figure 3: Mediation Model

The indirect effect has been determined as follows:

Model 1: A linear regression model has been used to determine if altruism as a social norm increases the willingness to perform altruistic actions (see path A of Figure 3). With the data showing $b=0.382$ and $p=0.0014$, there is a significant correlation between *Altruism as a Social Norm* and *Individual Willingness to perform Altruistic Actions*. This indicates that the more altruistic the social environment of an individual, the higher the individual's willingness to engage in altruistic behavior. Looking at the control variables age, gender, and group, they don't show a significant correlation. However, the age group 34 - 38 years is nearly significant with $b=0.476$ and $p=0.0542$ indicating there might a difference between $>24 - 30$ years and 34 -38 towards individual willingness. The sample age group 34 - 38 had around 0.5 points higher individual willingness than 24 to 30.

Model 2: A logistic regression model has been applied to find out if a higher willingness to perform altruistic actions increases the likelihood of becoming an organ donor (see path B of Figure 3). The data shows no significant correlation between the individual's willingness to perform altruistic actions and owning an organ donation card ($p=0.208$). However, in the given sample there is a positive correlation

and looking at the probability of $OR=1.465$ and $p=0.208$ it shows that if *Individual Willingness* increases by 1 scale point, the chance of owing an organ donation card increases by 46.6%. Again, this effect cannot be generalized to the entire population. Looking at the control variables, the age groups do not differ significantly, neither do gender or group. However, the p value of gender male was close to the 0.05 threshold. In the given sample males had a 60.5% lower chance of being an organ donor than females ($OR=0.395$, $p=0.088$).

The mediation analysis revealed that *Individual Willingness* is no significant mediator for the association between *Altruism as a Social Norm* and owning an organ donation card. The 95% confidence interval $[-0.095, 0.586]$ contains 0 which indicates that the data does not provide enough evidence to conclude that the mediation effect is different from zero. The reported indirect effect of $ab=0.146$ is consequently not statistically significant.

In simpler terms, whether a person is altruistic may affect whether they own an organ donation card, but IW (individual willingness) does not play a significant role in that connection. The affiliation to either group 1 or 2 has had no significant impact on the outcome. Consequently, the null hypothesis cannot be rejected. Table 5 gives an overview of the described data.

Table 5: Model 1&2 - Altruism Social Norm, Individual Willingness, Organ Donor

Dependent Variable:	Model 1 Individual Willingness	Model 2 Organ Donor
		0.382
Individual Willingness		(0.304)
	0.382**	0.423
Altruism Social Norm	(0.116)	(0.351)
	0.105	0.590
Age 18 – 24 years	(0.210)	(0.619)
	0.183	-0.041
Age 30 – 34 years	(0.213)	(0.630)
	0.476	-0.710
Age 34 – 38 years	(0.244)	(0.724)
	-0.277	-0.930
Gender Male	(0.186)	(0.545)
	0.152	14.119
Gender Diverse	(0.442)	(694.956)
Group Sociologists	-0.262	0.427

	(0.159)	(0.465)
	2.768***	-3.332***
Constant	(0.520)	(1.754)
N	100	100
R ² /Nagelkrk	0.164	0.178
F	2.582*	

*Table 5: Regression analysis - standard errors in parentheses, *:p<0.05, **:p<0.01, ***:p<0.001; Model 1 = linear regression, Model 2 = logistic regression thus the presented coefficient of model 2 are log odds; Reference group: Age group 2: 24 – 30 years, Gender: Female, Group 1: Economists/Business/Law students*

The direct effect has been determined in path C': Regarding the direct effect between *Altruism as a Social Norm* and *Organ Donor*, the data shows no significant correlation (p=0.2281). Looking at the probability of OR=1.527 (b=0.424), if *Altruism as a Social Norm* increases by 1 scale point (on a five-point Likert scale), the chance of owning an organ donation card increases by 52% in the given sample.

6.3.2. Hypothesis 2

H2: Social recognition increases the willingness to follow a social network's norms.

A linear regression model has been applied to determine whether there is a correlation between Social Recognition and Network Norm or not. Prerequisites were checked. The data shows that there is a significant positive association with b=0.533 and p<0.001. The more social recognition, the higher an individual's willingness to follow a network's norm. If Social Recognition increases by one scale point (on a five-point Likert scale), Network Norm increases by 0.53 scale points.

Looking at the control variables age, gender, and group, the correlation between the two variables does not differ. However, the age group 18-24 shows significantly higher social norm than the reference age group (25-29 years) with b=0.378 and p=0.019.

Consequently, the null hypothesis can be rejected. Table 6 gives an overview of the described data.

Table 6: Model 3&4 - Social Recognition, Network Norm

Dependent variable:	Model 3 Network Norm	Model 4 (control variables Network Norm
Social Recognition	0.533*** (0.89)	0.546*** (0.91)
Age 18 – 24 years		0.378** (0.158)
Age 30 – 34 years		0.000 (0.158)
Age 34 – 38 years		-0.059 (0.180)
Gender Male		-0.056 (0.138)
Gender Diverse		-0.189 (0.330)
Group Sociologists		0.005 (0.119)
Constant	1.899*** (0.290)	1.812*** (0.361)
N	100	100
R ²	0.267	0.322
F	35.703	6.253

Table 6: Regression analysis - standard errors in parentheses, *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$; Model 3 & 4 = linear Regression; Reference group: Age group 2: 24 – 30 years, Gender: Female, Group 1: Economists/Business/Law students

6.3.3. Hypothesis 3

H3: Individuals are more likely to register as organ donors in the course of social events, compared to non-social events.

A paired t-test has been applied to evaluate the effect of social events on the willingness to register as an organ donor. On a scale from 1 (most negative) to 5 (most positive) social events show a mean of 3.25 (standard deviation=1.23) and non-social events a mean of 2.75 (standard deviation=1.23). This means social (in-person) events and non-social (not in person) events differ significantly towards the likelihood of registering as an organ donor. The former has a significantly higher likelihood than the latter. According to (Cohen, 1988) the point estimate of 0.5 indicates a medium effect size.

Consequently, the null hypothesis can be rejected. Table 7 gives an overview of the described data.

Table 7: Results Paired t-test

	Mean	Standard deviation	N	p-value	t-value	Cohens d'
Social Event	3.250	1.280	100			
Non-social event	2.750	1.226	100			
Difference	0.5			<0.001	5.726	0.573

*Table 7: Paired t-test - Standard deviations are in parentheses; *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$. Cohen's d is used to indicate effect size.*

7. Discussion

This chapter aims to summarize and analyze the study's findings, guided by the hypotheses and addresses the study's limitations. It is crucial to note that the results and interpretations presented here are specific to the study's sample. Due to the small sample size and the non-random nature of the sample, no generalizations about the broader population can be drawn.

7.1. Summary of Results

To answer the research question of this thesis *What is the impact of social norms on the willingness to become an organ donor*, three hypotheses have been tested using linear and logit regression models as well as a paired t-test. The first hypothesis addresses the impact of an altruistic social environment on the individual's willingness to perform altruistic actions. Hypotheses two and three target the impact of social recognition and in-person contact.

Model 1 examines the independent variable *Altruism as a Social Norm* on the dependent variable *Individual Willingness* and is further extended by the independent variable *Organ Donor* in Model 2. Model 1 shows statistical significance with $p=0.0014$, however model 2 is not statistically significant with $p=0.208$. Looking at the control variables age, gender, and group, they don't show a significant correlation.

Model 3 tests the effect of *Social Recognition*, the independent variable, on *Network Norm*, the dependent variable. With $p<0,001$ the model is statistically relevant. Model 4 puts the control variables age, gender, and group into consideration which does not change the correlation between the two variables.

Lastly, a paired t-test was conducted to look at the impact of direct contact on the willingness to register as an organ donor and compares the means of the two groups *Social Events* and *Non-Social Events*, and the former has a significantly higher likelihood than the latter with <0.001 .

7.2. Interpretation

Hypothesis 1 targets the relationship between embeddedness in a society with altruism as a social norm and an individual's willingness to become an organ donor, specifically examining whether this relationship is mediated by the individual's willingness to perform altruistic actions. This hypothesis can be rejected as the indirect effect of $ab=0.146$ is not statistically significant with the confidence interval including zero. According to this study, *Individual Willingness* does not significantly mediate the relationship between *Altruism as a Social Norm* and organ donation behavior. Also, the direct effect between *Altruism as a Social Norm* and *Organ Donor* (c') shows no significant correlation ($p=0.228$). The affiliation to either group 1 or 2 has had no significant impact on the respective outcome. This means that contrary to the expectation that individuals being embedded in an altruistic environment are not necessarily more likely to become organ donors. Additionally, the expectation that there is a difference in the outcome between the two groups was not observable.

It is worth noting that, as in the literature suggested (Foss, 1983; Hechter & Horne, 2009; Homans, 1974; Opp, 2015) there is a significant positive correlation between *Altruism as a Social Norm* and *Individual Willingness to perform Altruistic Actions* with $p=0.0014$. Supporting the theory, it suggests that individuals who are more embedded in an altruistic social environment are more inclined to perform altruistic actions. Most control variables (age, gender, and group affiliation) did not show a significant correlation. However, the age group 34-38 showed that there might be a difference compared to the reference group $>24 - 30$ years towards individual willingness with $p=0.054$, having around 0.5 points higher individual willingness than 24 to 30.

Furthermore, while there is no significant correlation between *Individual Willingness to perform Altruistic Actions* and owning an organ donor card ($p=0.208$), in the given sample there is a positive correlation and looking at the probability it shows that if Individual Willingness increases by 1 scale point, the chance of owning an organ donation card increases by 46.6%. In addition to that, the control variable gender shows that males are 60.5% less likely to be organ donors compared to females, though this result is also not statistically significant ($OR=0.395$, $p=0.088$). However, these effects are not strong enough to be generalized to the broader population.

Hypothesis 2, looking at the impact of *Social Recognition* on the *Willingness to follow a Network's Norm*, cannot be rejected with $p<0.001$. This means that the more an individual values social recognition the more likely he or she is to obey social norms. This supports the existing literature (Hechter, 1984; Wrong, 1961) suggesting that social recognition can be a main driver for a certain behavior and that a social network's recognition influences lifestyles and patterns. In the context of this study one can assume that if an individual is embedded in a social environment in which altruistic behavior is positively enforced and recognized, individuals are likely to follow this norm.

Hypothesis 3 compares the likelihood of social (in-person) events on the willingness to register as an organ donor, compared to non-social events. This hypothesis cannot be rejected as the results show that social (in-person) events and non-social (not in person) events differ significantly with $p<0.001$. The former has a significantly higher likelihood than the latter with a medium effect size. A possible explanation for this result is that in-person events equal direct contact with other individuals and looking at the results from hypothesis 2, individuals show a tendency to follow their social environment's norm.

To summarize, this study did not find a statistically significant positive influence of altruism as a social norm on the willingness to become an organ donor, neither indirectly nor directly. Social recognition does however show a significant impact on the individual's willingness to follow a networks norm as well as social events on the organ donation registration behavior.

7.3. Limitations

It is important to acknowledge and address the limitations that may impact the reliability, validity, and generalizability of the findings.

The sample size of about 50 participants per group and be considered a rather small sample size which is also due to the limited access to German participants and the requirement of them being assignable to the two studies groups. This limits the generalizability of the findings and may impact the statistical power of the analysis.

Another aspect to be put into consideration is the use of a convenience sample which involved participants from the author's personal, social, and professional network. As the sample may not be representative of the broader population due to the individuals sharing similar characteristics, this approach inherently introduces a selection bias. Furthermore, as the study was limited to participants from two specific academic backgrounds based on their study subject, only individuals with an academic background were included. As this narrows the scope of the sample, the findings are limited in their generalizability.

A key limitation of the survey conducted on social norms is related to the design of the response options. If the response options were not adequately comprehensive or clearly defined, they could have constrained participants' ability to express their true opinions, impacting the data's accuracy and reliability. Response options such as the five-point applied Likert-scale have the potential to limit nuances as they often simplify complex attitudes and pose a risk for central tendency bias. This means that respondents may choose more neutral answer options in the center to avoid extreme responses. While the author has tried to avoid questions that trigger social desirability, self-reported data is inherently vulnerable to social desirability bias, where respondents may provide answers, they believe are socially acceptable rather than genuine answers resulting in responses that do not accurately reflect the participants' true views on social norms (Stoetzer, 2017).

8. Summary and Theoretical Implications

The purpose of this study is to analyze the influence of social norms on the willingness to become an organ donor in Germany. The country faces a scarcity of organ donations and ways need to be found to increase the number of organ donor card holders to save patient's lives. As the German Bundestag has voted against changing the policy from an Opt-in regulation to an Opt-out regulation (which is known to increase the number of organ donors), different approaches need to be explored. Social Norms, known to have an influence on individuals' behavior (Hechter & Horne, 2009; Homans, 1974; Opp, 2015) and related studies exploring the context of human tissue donation (Alessandrini, 2007; Cameron et al., 2013; Smith et al., 2011) suggest a correlation between the two matters.

Consequently, the following research question was raised:

What is the impact of social norms on the willingness to become an organ donor in Germany?

The research conducted in this study can be further divided into two parts. One looks at the influence of the social environment on individuals' altruistic behavior and the other part explores the impact of (direct) social recognition. Thus, the hypotheses of this study are the following:

H1: Embeddedness in a society with altruism as a social norm increases an individual's willingness to become an organ donor.

H2: Social recognition increases the willingness to follow a social network's norms.

H3: Individuals are more likely to register as organ donors in the course of social events, compared to non-social events.

In order to answer the research question, theoretical approaches have been applied.

According to the literature (Hechter & Horne, 2009; Homans, 1974; Opp, 2015), social norms significantly shape individual behavior. Looking at Opp's framework on Dimensions (Opp, 2015), there is a causal relationship with behavior suggesting that norms that are widely accepted and enforced with social sanctions are likely to influence individuals to follow them. In his work, he explores the intersection of rational choice theory and social norms suggesting that individuals weigh the costs and benefits or norm compliance. This is supported by Granovetter (1973) stating that social networks play an important role in shaping what an individual perceives as right or wrong as they align with a community's goals and values. In order to enhance their status within a community, individuals tend to follow certain norms.

Findings on altruism as a social norm indicate that the key factor may be the social environment. According to a study conducted by Foss (1983) who observed blood donation rates across different communities, the deviation can be attributed to differences in perceived social pressure rather than personal convictions. He states that perceived normative support has a significant influence on behavior with greater willingness to donate blood resulting from higher normative support.

The assumption based on the research of Opp and his colleagues is that, applied to the context of organ donation registration, individuals will show a higher willingness to perform altruistic actions, such as registering, if they are embedded in an environment that values altruism. Furthermore, social recognition will have a positive effect on this behavior.

To test the hypotheses, a quantitative approach was selected using linear and logit regression analysis, as well as a paired t-test. The data was collected through an electronic survey created by Social Science Survey and distributed within the author's personal and professional network, as well as social media.

Participants were required to be German and live in Germany as well as study/have studies one of the two group's subjects. After the data cleansing, the convenience sample comprised 100 participants (49 for group 1 and 51 for group 2). Having included matrix questions in the survey for the participants to differ between family, friends, and acquaintances, these have been aggregated to compute *social environment* (there has not been a notable difference between the different groups). This process yielded to the dependent variables *Individual Willingness* and *Social Norm*, and the independent variables *Altruism as a Social Norm* and *Social Recognition*, as well as *Social Events*. The internal validity of these variables was assessed, and a descriptive analysis of the data was conducted, including frequency and correlation analysis for the two groups. The primary focus of the data analysis involved linear, and logit regression model, as well as a paired t-test.

The main finding of this study is that embeddedness in a society with altruism as a social norm does not increase an individual's willingness to become an organ donor. This means that H1 can be rejected as the data did not support the expected relationship. This effect has been tested directly, and indirectly using increased *Individual Willingness to perform Altruistic Actions* as a mediator.

It is however worth noting, that *Altruism as a Social Norm* does significantly influence *Individual Willingness to perform Altruistic Actions* with $b=0.382$ and $p=0$. In other words, the more altruistic the social environment of an individual, the higher the individual's willingness to engage in altruistic behavior. The control variables age, gender and group do not show a significant correlation. Furthermore, there is no significant correlation between *Individual Willingness to perform Altruistic Actions* and owning an organ donation card ($p=0.208$) but putting the probability of $OR=1.465$ into consideration, the chance of owning an organ donation card increases by ~46% if Individual Willingness increases by 1 scale point in the given sample.

While the hypothesized effect of an altruistic social environment on organ donation registration was not supported, the finding that altruism as a social norm significantly influences an individual's general willingness to engage in altruistic actions. This aligns with the theory emphasizing the impact of social norms on behavior. It suggests that even though a general tendency toward selfless actions is encouraged, it may not necessarily correlate with specific actions like organ donation registration. The discrepancy indicates that while norms shape individual's attitudes, other factors, such as personal convictions or perceived risks influence whether these attitudes are translated into specific actions.

The other findings give insight into the influence of social recognition on individuals behavior. Hypothesis 2: *Social recognition increases the willingness to follow a social network's norms* cannot be rejected with $b=0.533$ and $p<0.001$. The more an individual values social recognition the more he/she is willing to follow a network's norm. The control variables age, gender, and group do not have an impact on the correlation. However, an interesting note to add is that social recognition is significantly more important for the age group 18-24 years compared to the reference age group (25-29).

These findings show that the need for social recognition is an influential factor in norm adherence and support and extends existing social norms theories, particularly in relation to rational choice and behavioral motivations. It implies heightened importance of peer approval in shaping behaviors among younger individuals, which might be linked to developmental and social identity factors.

Hypothesis 3: *Individuals are more likely to register as organ donors in the course of social events, compared to non-social events* can also not be rejected with <0.001 and a medium effect size. This means that the likelihood of registering as an organ donor differs significantly when taking part of a social (in-person) event compared to a non-social (not in person) event with the favor to the former.

Looking at the two groups, one associated with altruistic behavior (group 2) and the other one with anti-social behavior (group 1) belonging to a group did not have a significant impact on the outcome. However, in the given sample 46% of the participants in group 1 own an organ donation card compared to ~67% of the participants of group 2.

The results of H3 indicate that individuals are more likely to register during social events which supports the idea that behavior is influenced by perceived peer actions and by the opportunity to align oneself publicly with socially valued norms. This is a valuable insight for the theoretical understanding of how public actions undertaken in social settings are enforced by the immediate visibility of those actions. Theories on social norms might benefit from incorporating a situational component, where the opportunity for public recognition plays a key role.

These results must be interpreted with caution as they are subject to limitations that may impact the reliability, validity, and generalizability of the findings. Especially the sample size, it being a convenience sample, and the aspect of social desirability must be put into consideration and do not allow any conclusion regarding the overall population.

Even though the findings of this study are limited, they bring valuable insights into the subject of organ donation. Additionally, it supports the existing literature on social norms and their impact on individual behavior. As the research on social norms and organ donation registration behavior is scarce, this thesis might encourage to conduct further research in this direction and shed light on the scarcity of organ donors in Germany.

9. Conclusion

The findings of this study can be used as a supplement for future research. This and other studies have shown that impact of social norms must not be underestimated as it shapes individual's behavior. Looking at the results of this study, they provide policy makers with the insight that social recognition is an important factor for behavior, especially regarding in-person contact. An addition to other research, collective registration events or campaigns held at workplaces, community events, and similar gatherings provide the opportunity to create a feeling of togetherness for a good cause and nudge individuals into registering to potentially save lives. Additional studies on this matter applied to a broader scope on a representative level would allow conclusions and better insights into how individuals should be approached to ultimately counteract the scarcity of registrations in Germany.

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Appendix

Sehr geehrte TeilnehmerInnen,

ich schreibe meine Masterarbeit an der Universität Wien und befasse mich dabei mit Wahrnehmungen und Einstellungen bezüglich verschiedener gesellschaftlicher Bereiche. Die Beantwortung dieses Fragebogens wird ca. **5 Minuten** dauern. Die von Ihnen angegebenen Daten werden unter Einhaltung der Datenschutzgesetze und zum Schutz Ihrer Privatsphäre vertraulich behandelt.

Für etwaige Fragen stehe ich Ihnen per E-Mail (a11717184@unet.univie.ac.at) gerne zur Verfügung.

Vielen Dank für Ihre Unterstützung!

J.S.

1. Ich fühle mich oft dazu genötigt, mich an das Verhalten meiner Familie /FreundInnen / Bekannten anzupassen.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

2. Für mich ist es wichtig, Menschen zu helfen, die Hilfe brauchen, auch wenn es Aufwand oder Geld erfordert.

Überhaupt nicht/ Eher nicht/ Mäßig/ Eher/ Sehr stark

3. Wenn ich keine Gegenleistung erwarten kann, bin ich nicht dazu bereit, meine freie Zeit zu opfern, um anderen Menschen zu helfen.

Überhaupt nicht/ Eher nicht/ Mäßig/ Eher/ Sehr stark

4. Ich leiste in regelmäßigen Abständen Hilfe für andere, spende oder engagiere mich freiwillig.

Überhaupt nicht/ Eher nicht/ Mäßig/ Eher/ Sehr stark

5. Ich bin jemand, der Blut spendet.

Überhaupt nicht/ Eher nicht/ Mäßig/ Eher/ Sehr stark

6. Ich finde es nicht wichtig, im Besitz eines Organspendeausweises zu sein.

Überhaupt nicht/ Eher nicht/ Mäßig/ Eher/ Sehr stark

7. Es ist wichtig für mich, von meiner Familie / meinen FreundInnen / meinen Bekannten respektiert und gemocht zu werden.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

8. Ich bin nicht bereit, mein Verhalten anzupassen, damit Andere (Familie /FreundInnen / Bekannte) mich mögen.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

9. Ich habe mich schon einmal verstellt, um mehr Anerkennung oder Beachtung von meiner Familie / meinen FreundInnen / meinen Bekannten zu erhalten.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

Bitte beurteilen Sie die nachfolgenden Szenarien.

10. Sie sind mit Ihren Arbeits- / StudienkollegInnen am Weg zum Mittagessen und müssen eine Straße überqueren, die Ampel ist rot. Ihre KollegInnen überqueren die Straße.

Welche der folgenden Aussagen trifft am ehesten auf Sie zu?

- Ich überquere eine Straße nie bei Rot, auch wenn meine KollegInnen sie überqueren, werde ich es sicher nicht tun.
- Ich verspüre den Druck die Straße ebenfalls zu überqueren, werde aber es eher nicht tun.
- Ob meine KollegInnen die Straße überqueren oder nicht, beeinflusst meine Entscheidung nicht.
- Wenn meine KollegInnen die Straße überqueren, bin ich nicht begeistert davon, werde es aber wahrscheinlich trotzdem tun.
- Wenn meine KollegInnen die Straße überqueren, dann werde ich sie auch überqueren.

11. Sie treffen sich zum Semesterschluss mit Ihren UnikollegInnen in einem Restaurant. Jemand schlägt vor, zur Feier des Tages eine Flasche Wein zu bestellen.

Welche der folgenden Aussagen trifft am ehesten auf Sie zu?

- Ich werde sicher keinen Alkohol trinken.
- Ich verspüre den Druck, ebenfalls Alkohol zu trinken, werde es aber eher nicht tun.
- Ob meine KollegInnen Alkohol trinken oder nicht, beeinflusst meine Entscheidung nicht.
- Ich bin nicht begeistert davon Alkohol zu trinken, werde es aber wahrscheinlich trotzdem tun.
- Wenn meine KollegInnen Alkohol trinken, dann trinke ich ebenfalls.

12. Am Nachhauseweg von der Arbeit/Uni sehen Sie ein Plakat, das über den Mangel an OrganspenderInnen in Deutschland aufmerksam macht und Sie dazu auffordert, sich zu registrieren.

Wie wahrscheinlich ist es, dass Sie dieser Aufforderung nachkommen?

Sehr unwahrscheinlich/ Eher unwahrscheinlich/ Mäßig/ Eher wahrscheinlich/ Sehr wahrscheinlich

13. In einer Vorlesung Ihres Wahlfaches Soziologie wird auf den Mangel an OrganspenderInnen aufmerksam gemacht und dazu aufgefordert, sich noch vor Ort als OrganspenderIn zu registrieren.

Wie wahrscheinlich ist es, dass Sie dieser Aufforderung nachkommen?

Sehr unwahrscheinlich/ Eher unwahrscheinlich/ Mäßig/ Eher wahrscheinlich/ Sehr wahrscheinlich

14. Im Wartezimmer Ihres Arztes/Ihrer Ärztin liegt eine Broschüre, die über den Mangel an OrganspenderInnen informiert und Sie dazu auffordert sich zu registrieren.

Wie wahrscheinlich ist es, dass Sie dieser Aufforderung nachkommen?

Sehr unwahrscheinlich/ Eher unwahrscheinlich/ Mäßig/ Eher wahrscheinlich/ Sehr wahrscheinlich

15. Ihr/e Arbeitgeber/in organisiert einen Vortrag zum Thema „Psychische Gesundheit am Arbeitsplatz“. Der/die Vortragende informiert auch über den Mangel an OrganspenderInnen und fordert sie dazu auf sich noch vor Ort zu registrieren

Wie wahrscheinlich ist es, dass Sie dieser Aufforderung nachkommen?

Sehr unwahrscheinlich/ Eher unwahrscheinlich/ Mäßig/ Eher wahrscheinlich/ Sehr wahrscheinlich

16. Meine Familie / FreundInnen / Bekannten finden es wichtig, einander zu helfen.

Bitte geben Sie an, inwieweit Sie dieser Aussage für die jeweilige Gruppe überhaupt nicht, eher nicht, mäßig, eher, sehr stark zustimmen.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

17. Meine Familie / FreundInnen / Bekannten opfern sich ungern für Andere auf, vor allem wenn es Zeit- oder Geldaufwand erfordert.

Bitte geben Sie an, inwieweit Sie dieser Aussage für die jeweilige Gruppe überhaupt nicht, eher nicht, mäßig, eher, sehr stark zustimmen.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

18. Meine Familie / mein Freundes- oder Bekanntenkreis findet es lobenswert, wenn Menschen selbstlos handeln.

Bitte geben Sie an, inwieweit Sie dieser Aussage für die jeweilige Gruppe überhaupt nicht, eher nicht, mäßig, eher, sehr stark zustimmen.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

19. Egoistisches Verhalten sehen meine Familie / meine FreundInnen / meine Bekannten nicht kritisch.

Bitte geben Sie an, inwieweit Sie dieser Aussage für die jeweilige Gruppe überhaupt nicht, eher nicht, mäßig, eher, sehr stark zustimmen.

	Eher nicht	Mäßig	Eher	Sehr stark
Familie				
FreundInnen				
Bekannte				

20. Bitte geben Sie Ihr Alter an.

21. Bitte geben Sie Ihr Geschlecht an.

22. Bitte geben Sie Ihre Staatsangehörigkeit an.

23. Bitte geben Sie das Land Ihres Wohnorts an.

24. Bitte geben Sie Ihre Studienrichtung an.

BWL/IBWL VWL Recht Sozialwissenschaften/ Andere

25. Ich besitze einen Organspendeausweis.

Ja/ Nein

Vielen Dank für Ihre Teilnahme!